# ARMED FORCES MANAGEMENT

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## Feature

*Management for Industrial Preparedness in Army Ordnance by General Medaris*

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- *News Briefs from the Services*
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## On the Cover

On this cover we pay tribute to Major General E. L. Cummings, Chief of Army Ordnance, whose wide experience and colorful career make him ideally suited to the job of overseeing the expenditures of more than half of the Army's budget.

Vol. 1, No. 7 April, 1955
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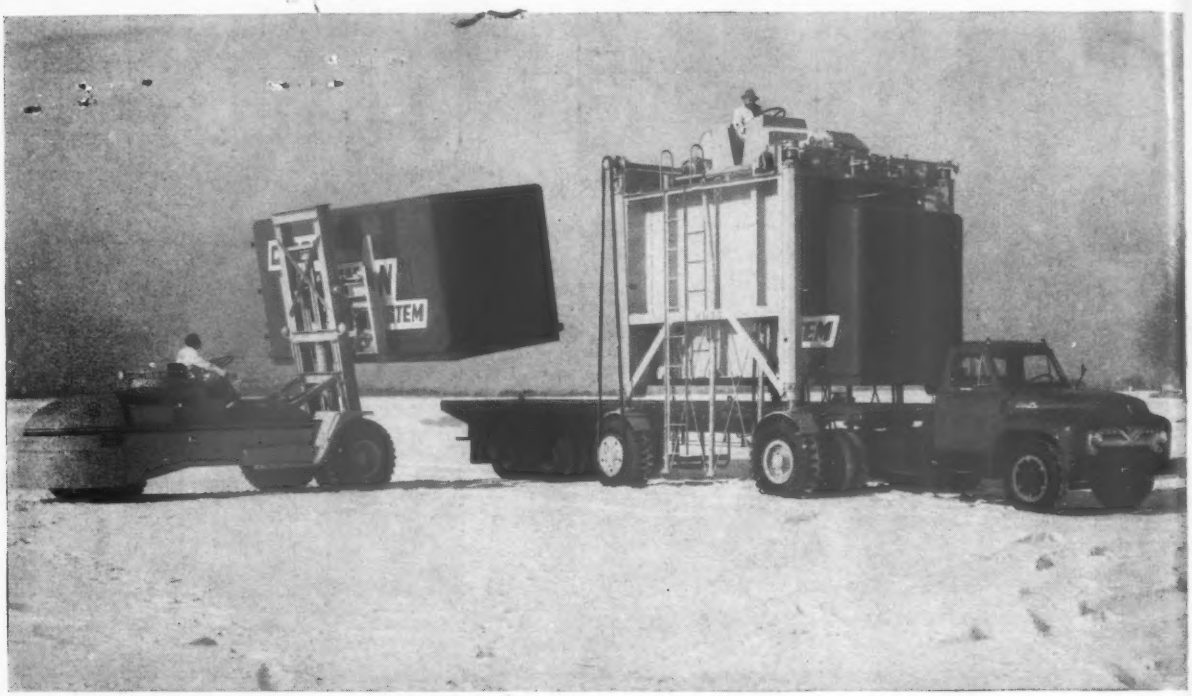

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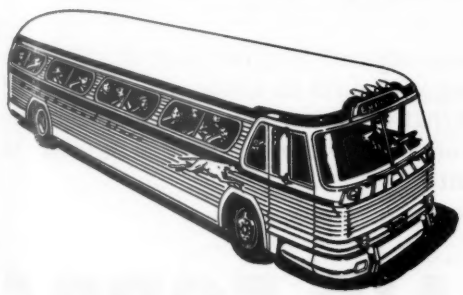

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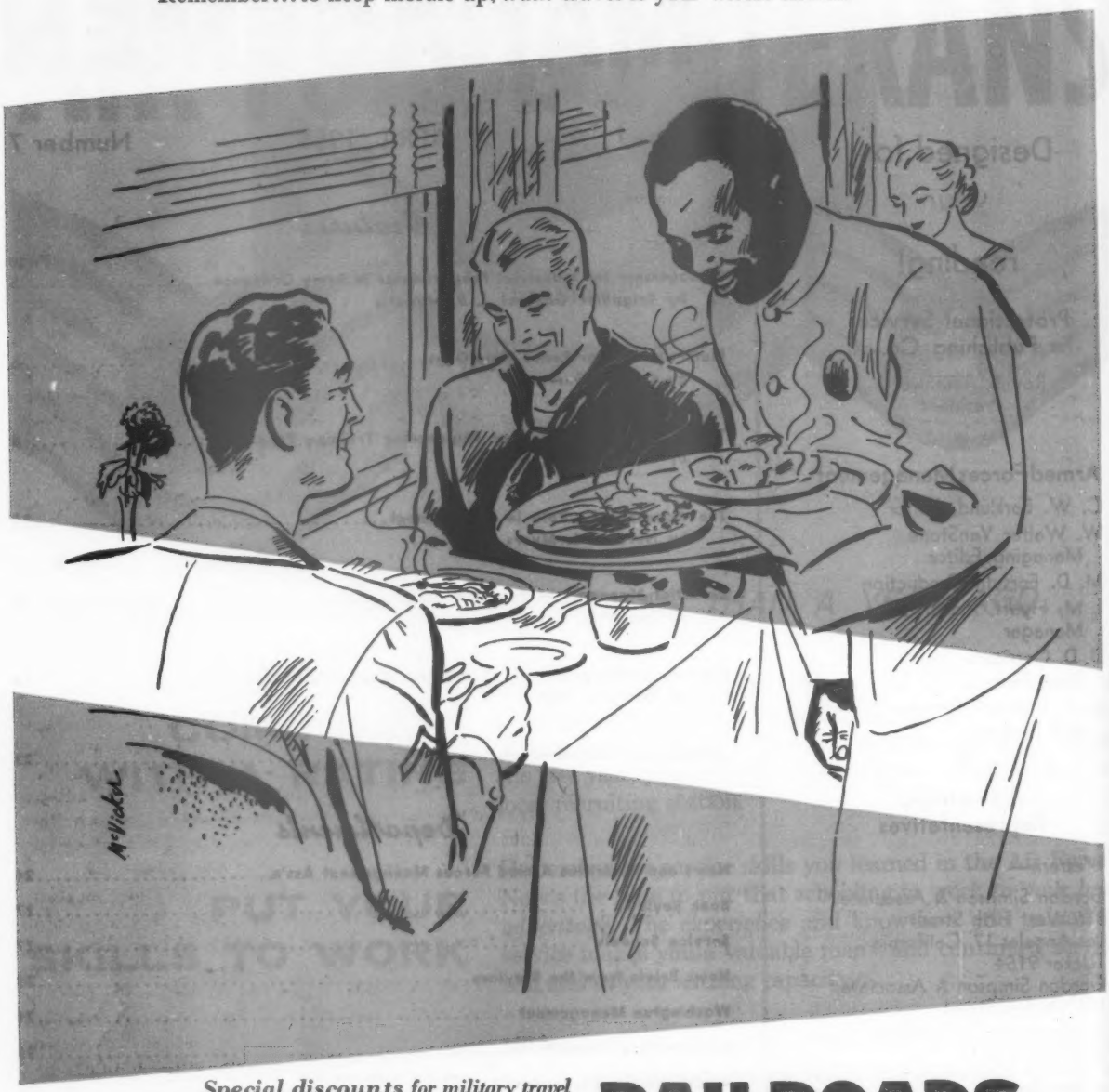


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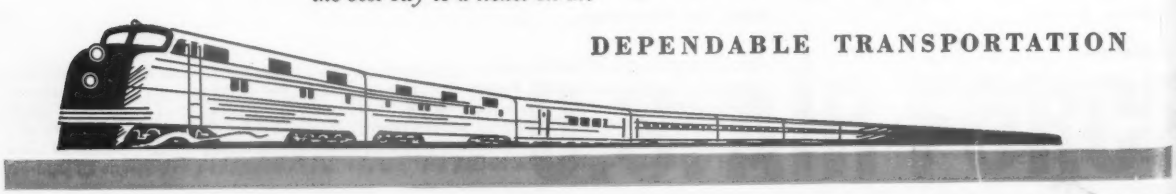


# Management for Industrial Preparedness In Army Ordnance

## The objectives of the Ordnance Corps are not fulfilled by attempting "management for management's sake"

by
**Brigadier General J. B. Medaris**
**Chief of Industrial Division**
**Army's Ordnance Corps**

The Ordnance Corps does not practice "management for management's sake." There is a basic philosophy of service which dictates the most efficient accomplishment of the Ordnance job. The most efficient accomplishment means the best service of which we are capable to our men on the battlefield. Efficient accomplishment is not possible without the practice of good management.

The size, diversity, and complexity of the Ordnance job is such that coordination and management is our biggest problem—especially in times of full or partial mobilization when the Ordnance workload is heaviest.

Ordnance has the responsibility for development, production and procurement, storage, distribution and maintenance of all Ordnance material used by the Army. It also has this responsibility in many cases for supplying materiel to the other services—the Air Force, the Navy and the Marine Corps—plus such Ordnance materiel as is supplied to our allies under foreign military aid commitments. By Ordnance materiel is meant small arms of all kinds—side arms, rifles, and machine guns; artillery of all types, including such man-portable artillery as mortars and recoilless rifles as well as antiaircraft, field and heavy artillery; rockets of all sizes; guided missiles; the ammunition for all of these; mines, grenades, and pyrotechnic devices; fire-control instruments and devices for aiming and directing guns; tanks and automotive vehicles; and the packing equipment and materials for all of these many items.

Some idea of the size of the Ordnance job is indicated by the fact that at present Ordnance has over a hundred separate installations and activities located throughout the nation and has some 120,000 civilians in its employ. Many thousands of others are employed by private concerns who are engaged in work under Ordnance contracts. This is big business—one of the biggest businesses in the world. In our current inventory list there is something like 300,000 separate items, and this represents nearly a 25-per cent reduction in the number of items carried two or three years ago. Such a reduction has been made possible in part through an intensive program of standardization of vehicles and parts. Even at its present size, our list contains three times the number of items carried by the largest commercial mail order houses.

Our objectives in Ordnance, though remaining basically the same for a number of years, may be restated in terms of current activities as being:

1. To produce or procure new, modern Ordnance material as required by the Army, Navy, Marines, and Air Force, plus that needed to fulfill foreign military aid commitments.

2. To reconstitute our reserve stocks in storage and in the hands of troops—worldwide.

3. To maintain a steady level of effort in our progressive research and development program.

4. To maintain a dynamic and flexible production base, either in a state o feffective standby or preferably, at a low cruising speed of operation, which is thoroughly capable of expanding rapidly enough to meet any given combination of circumstances.

The problems of managing efficiently to achieve all of these objectives are multitudinous and all-inclusive. As an Assistant Chief of Ordnance and Chief of Ordnance's Industrial Division, I prefer to deal solely with the subject of Industrial Preparedness since my responsibilities are heaviest in that field and since any attempt to deal with all the problems of management in Ordnance would necessarily have to be so broad as to serve no useful purpose.

At the present time, we find ourselves in a situation which can be described as neither peace nor war, but a situation in which a continual threat of war has become a part of our every day existence. All indications point to the fact that we may well expect this to be the state of affairs for a good many years, during which M-Day is always a possibility at any given time.

Under the present Defense concept of mobilization planning, we are constantly aimed at a desirable state of M-Day readiness for an indefinite M-Day. This concept evolves from the current national policy that there is no determined date of greatest danger to the nation. It decrees that there will be no specific target date for attainment of full readiness, and that the presumed date of potential mobilization will continue indefinite, undeterminable, and remote. We work towards a state of M-Day readiness but try not to quite reach it, keeping ourselves in a position, however, to reach it at the earliest practical moment should M-Day become a definite reality.

In achieving what we consider to be a proper state of readiness to do whatever we must do when called up, all of our efforts are directed at maintaining an industrial base from which production can be rapidly expanded as needed, rather than depending upon main-

(*Continued on page* 31)

# Mufti or Khaki or Peace Time Guns


## by Otis L. Guernsey

**President of Abercrombie & Fitch**

*Abercrombie & Fitch's President* **OTIS L. GUERNSEY**

THE Abercrombie & Fitch Company was founded on the two ideas that a sportsman can best select his equipment in a sporting atmosphere, and that he should be aided in making his selections by salesmen who are themselves sportsmen and can provide expert and personal advice. These ideas were first carried out in 1892 when Mr. Ezra H. Fitch, then a practicing lawyer in New York State, decided to combine his talents as a practical sportsman with Mr. David T. Abercrombie, an ex-prospector, miner, inventor and a typical sportsman. So the firm of Abercrombie & Fitch was born and soon Mr. Fitch found himself weaned more and more away from musty law books and gradually enmeshed in the fascinating realm of sporting equipment. The law books were forgotten. A new sportings goods establishment had begun to crystallize.

This first enterprise was distinctly "out-of-doors." This meant that the stock was not to be concealed on shelves, under counters and so on, but should be set up as if in actual use. Tents were pitched and the equipment installed. Everything was displayed as realistically as possible. In addition, and as a very important feature of this new venture, Mr. Fitch decided that his customers should reap the benefits of his many years of experience as a sportsman; that they should receive expert advice on what to purchase for shooting, fishing, etc. He personally saw to it that the salesmen employed not only knew how to sell, but were familiar from actual experience with the rods, reels, firearms and equipment which they were selling. It was personal merchandising in a new field. The salesmen were instructed (and still are today) not to high-pressure their customers. Actually our salesmen are more likely to act as a governor on a man's runaway emotions. They would consider it unsporting—like shooting a sitting bird—to take advantage of a beginner's ignorance.

There was a gradual uptown movement as the store expanded. First to 314 Broadway, then to 57 Reade Sts., (where general sportswear for men was added) and then to 36th St. near Fifth Ave. In 1917, exactly twenty-four years later, the move was made to the present location at 45th St. and Madison Ave. In 1928 Von Lengerke & Detmold of New York, Von Lengerke & Antoine of Chicago, renowned sporting goods store, and Griffin & Howe, well known gunsmiths were combined with Abercrombie & Fitch, thus continuing under our banner, "The Greatest Sporting Goods Stores in the World."

### General Policies

Although the company has been in business for many years, the spirit and the guiding policies of its founders remain alive in the hearts and minds of the organization. The unqualified guarantee idea was, and still is, the cornerstone of the business. Nothing is put in stock before its practical use has been carefully investigated. Our buyers and salesmen are in a position to assure our customers that they are *personally* acquainted with every piece of merchandise which they sell. We see to it that our customers are correctly and courteously outfitted and equipped or "your money back without question." This was, and still is, a solid foundation — the moving influence upon which the business was built.

### "Where the Blazed Trail Crosses the Boulevard"

This merger of the open road and the city pavement was first sprung upon the sporting world in the month of April, 1917 against a background of momentous world events. As a slogan it has become unique and symbolizes the best in sporting goods, from the Yukon to Little America, from the African veldt to the mountain ranges of the Himalayas and identifies Abercrombie & Fitch as readily as "Lucky Strike" identifies a cigarette.

In April, 1917, President Wilson with "a profound sense of the solemn and tragic character of the step which I am taking" proclaimed a state of war with Germany and Abercrombie & Fitch was ready with uniforms (from $47.50, up), with service wrist watches and money belts, with unbreakable mirrors and air pillows and all the various comforts and necessities for the men in training and in the field. Abercrombie & Fitch was the headquarters for aviation clothing and equipment including helmets, underwear and gloves and a leather suit endorsed by the U. S. Government. A special exhibition of officers' uniforms and personal requirements was on display under the supervision of a retired Army officer. The

"Coleman 58", invented by an Army officer was a specialty. This consisted of a Coleman tent, complete with poles, ropes and ground cloth, mattress and pillow, mosquito net, canvas basin and bucket—all for $40.00. The citizen soldiers, the "friendly invaders" in New York were made welcome at A. & F.

### Business as Usual

In the midst of the war needs of our fighting men, the home front was not overlooked and one of the most delightful features of camp life – cooking over an open fire – received prominent attention in a special catalogue entitled "Helps for the Hungry." With the horseless carriage rapidly taking over, ever-alert A. & F., arose to meet the challenge by publishing a special brochure entitled, "Trekking on Tires – the very Newest Sport." Mr. Fitch described the joys of motoring and indicated that it would "enable a sportsman to crowd the experience of a lifetime into one month's vacation."

### Expeditions

Over a long period of years we have outfitted various safaris and expeditions to many parts of the world beginning with the late President "Teddy" Roosevelt in 1908 for his first big game hunt in Africa. Among other well known people of the day to be outfitted were pioneer aviator Glenn Curtis, Shackelton, Amundsen and Ellsworth before their Polar search by airplane, MacMillan, Stewart Edward White, William Beebe of bathysphere fame, Paul Rainev, Charles Lindberg and many others.

### Famous Firsts

Always on the lookout for things new and different, perhaps the most sensational of such items was the game of Mah-Jong, which swept the country like a tidal wave in 1923. This is a story in itself. One day a customer asked the buyer of the Game Department for a set of these tiles. He had never heard of it, but after a diligent search a set was found and the customer was satisfied. The demand became so great that a special emissary was sent to China with instructions to buy up all the sets he could obtain. Ranging price from $16.00 to $265.00, sets came pouring in from Pekin and Hankow in quaint and beautiful chests; from Macao, the old Portuguese Monte Carlo of the China coast, Yellow Jacket and Mandarin Peacock tiles and sets as used in the Club de Lusitania in Canton where Kipling is alleged to have learned the game in 1893. A "citadel" was set up in the store and experts were hired to teach the game. Rules were translated from the Chinese and within two years over 12,000 sets were sold.

A. & F. was among the first to introduce "plus 4's" a style alleged to have been popularized by the Prince of Wales in 1924. English and European shotguns and rifles by Boss, Westley Richards, Holland & Holland, Churchill, Greener, Sauer, Purdey, Francotte, Mauser and other manufacturers were stocked. Other lines of firearms have since been added like the Italian Beretta and the Cosmi, the latter an automatic shotgun manufactured with watch-like precision. Other innovations include the water-proof and shockproof (Shipmate) wrist watch, Norwegian moccasins and our famous "Safari" cloth – a tough serviceable material made exclusively for A. & F. in a variety of garments for both men and women.

### Between Two World Wars

Catering, as always, to the sporting minded public, A. & F. introduced after the Armistice of 1918 the "Mufti-Kit" for men leaving the military service. This was a three piece outfit of English tweed "befitting an officer – for men who want an all purpose civilian suit" ($45.00). Sports outfits for both sexes hit a new high.

The 18th Amendment brought into the limelight the "Dry Hole" (formerly the 19th) and A. & F. offered special brief case flasks, spirit canes, musical shakers, traveling cocktail kits and the like – and the following years until the repeal of the 18th Amendment in 1933 (and afterwards too) saw a whale of a business in celarettes, barwagons and allied equipment of all kinds. A. & F. was, as usual, ready to supply the demands of its customers.

Following the lush days of the late Twenties and the early Thirties there came a period known as The Depression. We emerged from these trials somewhat battle scarred but triumphant and in the same assured place at the top of the ranks of retailing. None of the ideals or principles of specialized merchandising had been lost in this period of National turmoil and the late Thirties found the firm enjoying a new hey-day of prosperity.

### World War II

Immediately after Pearl Harbor we set about to make A. & F. the headquarters not only for uniforms for officers of all services, but for the Red Cross, the AWVS and other specialized units. We were specially licensed to sell G. I. uniforms as well as custom made outfits and, as in World War I, we made it a point to stock the comforts and necessities of the service men in the barracks and in the field. We point with pride that 101 of our boys participated in World War II, and sadly report that three were killed in action. Of the original 101, 64 of them returned to their jobs and the majority of them are with us today. We made it a point to keep in touch with our fighting men at the front and in the training camps. We sent

(*Continued on page* 20)

Nature is a vast repository of manly enjoyments

*Henry Ward Beecher*

# The Ordnance Management Engineering Training Program

By Dr. Russell L. Moberly

**Editor's Note**
**(Dr. M. E. Mundel is now on the staff of the Management Center, Marquette University, Milwaukee. Norman P. Allhiser is now in charge of the Industrial Management Institute, University of Wisconsin)**

In August 1949, Executive Order number 10072 was issued by the President of the United States formally requesting an accelerated pace of management improvement in government agencies.

In October 1951, a small, specially selected group of consultants was appointed by General E. L. Ford, Chief of Army Ordnance, to lay the plans for Ordnance to meet this challenge.

In March of 1952, two men stood in front of a blackboard temporarily nailed to the wall of a room in Building 90, on the grounds of Rock Island Arsenal, Illinois, listing items to be procured and steps to be taken, while two desks and chairs were being moved in and while an electrician installed a telephone.

In March of 1953, one year later, Dr. M. E. Mundel, the Director of the Ordnance Management Engineering Training Program, presented the one thousandth trainee to Colonel W. W. Warner, Commanding Officer of the Rock Island Arsenal, for the issuance of his certificate of training under the Ordnance Management Engineering Training Program. Also, in 1953, the first of the major proposals for the improvement of management in Ordnance began to flow from the field of the Office of the Chief of Ordnance and the minor proposals began to form a steady stream. By February of 1955 the number of graduates of the program had grown to 3700. Dr. Mundel had returned to private employment and the school had continued successfully under the leadership of Mr. J. Moquin, one of Dr. Mundel's first recruited instructors.

Thus, one might describe briefly, the chronology of a vast effort by Ordnance, the world's largest and most varied industrial complex, to make possible the more economical fulfillment of a huge new set of burdens in the tense post-war world still not fully at peace.

Executive Order 10072 was issued in a year which marked a radical departure in the management climate in government affairs. This was the first year since 1917 that the annual appropriation bills did not specifically prohibit government agencies from availing themselves of the use of industrial engineering techniques which were not only widely used and accepted in private industry throughout the world, but had come to be regarded as basic essentials for truly economical management. This change in climate was rapid.

In January 1950, the U. S. Bureau of the Budget issued Circular A-8 stating the responsibilities of the various agencies for management improvement. This was followed in June of 1951 by Circular A-44 which gave a list of the steps to be taken and the reports to be made to the President in respect to a program of management improvement. In December 1950, OCTI 910-10-50 was issued which marked the initiation of a formal management improvement program in Ordnance.

It is worth noting that throughout its history, Ordnance has continually and effectively improved its management and the economy of its operations. Ordnance has many management "firsts" in its history. The first complete system of production control used in the United States was initiated at the Frankford Arsenal in the 1880's.

It is not to be thought that the management of Ordnance was particularly defective in 1949. Ordnance had become, dollar-wise, the largest single activity in the United States, and OCTI 910-1-50 marked the complete recognition that the improvement of management to a superlative level was a prime problem in the economy of the country.

In October 1951, after sufficient time had been allowed for the Ordnance installations to take stock of the problems involved in this effort, General Ford appointed, under the leadership of the Civilian Personnel Branch, and the Management Office of the Chief of Ordnance, a special group of consultants representing industry, universities and management consultants to design a means of implementing the management improvement program which he indicated was of utmost importance and concern to him.

The consultants appointed, Dr. P. Hensel of Toledo, Dr. Russell Moberly, then at the University of Wisconsin, Dr. M. E. Mundel, then at Purdue, Mr. B. Stockfleth of Pacific Engineers and Mr. L. Osborne of the Wassell Co., met for the first time in October 1951. Mr. George DeCamp, Mr. Frank C. Crotty and Mr. Charles W. Cox of the Civilian Personnel Branch of the Office of the Chief of Ordnance and Colonel C. White, Major A. Sweeney and Mr. I. Berg of the Management Office of the Office of the Chief of Ordnance outlined the basic problems to be considered.

The group was aided by the cross transfer of information from the Ordnance Management Advisory Panel on which Drs. Moberly and Mundel served with Mr. Paul Kelly

of the Atlantic Refining Co., Mr. James Bailey of DuPont and Mr. Paul Mills of the General Electric Co.

Meeting regularly during the fall and winter, under the chairmanship of Mr. Cox, the group first established a concept of management. They felt that it was vital to define the nature of the basic function they were to assist in improving. "Management," they said, "was the designing, predicting the performance of and controlling an integrated human group activity, the related physical facilities and the interrelationship of the two."

Within this major problem area, they felt, were three types of activities; the gathering of management data, the preparation of management designs (plans for the manner in which work was to be executed) and the making of decisions leading to actual activity. This was considered as a continuous series of activities, inasmuch as activities initiated had to be reported on, recommendations had had to be made on the basis of these data to either change the design or alter the factors affecting the installation's compliance with the design, and the making of further decisions, relative to these recommendations, took place on a continuous basis.

It was felt by the consultant group that the greatest improvement could be made by increasing the facility with which management data were gathered and the number of people understanding and able to use the techniques used to develop management designs.

They agreed that the upper levels of Ordnance Management were relatively well equipped to make the necessary decisions but had inadequate sources of data and recommendations, considering superlative management as the goal.

As a consequence of this thinking, it was decided to set up a training program within Ordnance to train Ordnance personnel in the following types of activities.

1. Techniques for gathering management data and for the evolving of simple management designs.

2. Techniques for using management data to evolve designs for complex management problems.

3. Coordinating and making full use of personnel trained to perform the preceding two activities.

The consultant group developed courses for subject matter areas within these three groups. Some courses have been added to the original list the present courses being offered:

**BASIC COURSES**

Methods Improvement
Work Measurement
Procedure Analysis
Management Statistics

**CONTROL COURSES**

Production Planning and Control
Organization Analysis
Manpower Control

**SURVEY COURSES**

Top Management Seminar
3-Day Management Appreciation Course

Following the development of these courses and as the final effort of the committee, the mission of the training establishment was stated as follows:

**1.** To provide, for all Ordnance establishments, a central training facility offering courses in Management Engineering. To perform the activities required to implement the assigned programs under this mission, including a continuous review, appraisal and improvement of performance.

**2.** To assist in the determination of management engineering training need in Ordnance.

**3.** To develop courses to meet indicated needs as they arise and to seek approval for programming such courses.

**4.** To assist local installations in determining their training needs in the management engineering field.

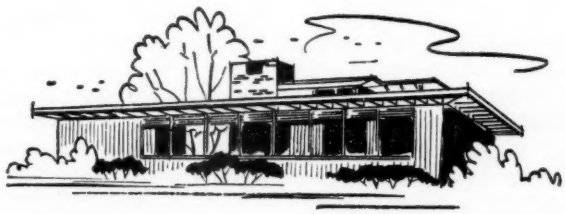
**5.** To assist local installations in developing courses and course materials and programming training activities for meeting such of these needs as are best met on the local training level.

**6.** To follow up the trainees in order to assist the local installations in relating management engineering training and practice.

Rock Island Arsenal, because of its central location in the United States, the nearness of suitable hotel accommodations and the availability of school space as well as the variety of work performed at the Arsenal, was designated as the school location. The school, a geographically dispersed division of the Civilian Personnel Branch of the Office of the Chief of Ordnance, was attached to Rock Island for housekeeping services with the point of contact being Mr. C. Hogberg, Civilian Personnel Office at Rock Island Arsenal.

At the request of General Ford, Dr. Mundel, (who had served as a member of the consultant group since its inception, and who was well known in engineering circles as both a practicing industrial engineer and educator), through the courtesy of President F. L. Hovde of Purdue University, where Dr. Mundel was serving as Professor and Chairman of Industrial Engineering, was given leave to serve Ordnance as the Director of the program. To assist him, Ordnance

(*Continued on page* 21)



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# The Accountant's Role in MANAGEMENT

By

HERBERT L. MYERS, Jr., *Professor of Accounting*

AIR UNIVERSITY

USAF INSTITUTE of TECHNOLOGY

**(Ed. Note: The following article describes some of the management concepts taught by the Department of Industrial Administration, Air Force Institute of Technology, Wright-Patterson Air Force Base.)**

AIR Force accountants, in their traditional role, were limited to the collection and analysis of data pertaining to those responsibilities of the manager having to do with securing and disbursing funds and the accountability for public property. Since 1946, the scope of accounting reports has been gradually extended to include "operating cost data." This operating data is designed to help the Air Force manager plan and control the activities of his organization. The potential outcome of this change in accounting emphasis is more air defense at a lower operating cost.

### The Historical Picture—Our Heritage

Since the days of Alexander Hamilton, the Federal government has employed a type of accounting designed primarily to discourage the theft of public funds and other public property, and the other basic objectives of accounting have been subordinated. On the other hand, in industry, the fundamental objectives of accounting have been to give management a financial picture which embodied both the point of view of resources and related problems of funding and the point of view of operations, particularly the cost of operations. Thus, in general, accounting systems are designed either to protect resources and discourage theft or to develop useful information for management: a comprehensive, realistic financial picture of the condition of an organization and an official record of business activities which will not only reveal the proper accountability for resources, but will provide a basis for appraising the effective use of resources.

**The Author**

During the nineteenth century, industrial accounting developed more rapidly than did governmental accounting in respect to the basic purposes of accounting. The Federal government in the early 1900's began to undertake improvements and changes in their fiscal accounting practice aimed at developing some kind of an index of the efficiency of operations, as well as a more suitable method of financial planning. The government was interested in finding out what savings had been realized as a result of more efficient operations. The Budget Act of 1921 reflected, among other things, pioneering accounting and funding reform.

With the advent of World War II, the increase in the size and complexity of the Air Force, Army, Navy demanded that managers of the national defense organization employ additional refinements and changes in accounting practice. A basic deficiency in the time-honored systems of funding, budgeting and accounting was the lack of data on cost of operations. Public Law 216 passed by the 81st Congress and other public laws passed in that period gave a very material boost to improvements in Air Force Accounting, funding and budgeting.

Any appraisal of the significance of contemporary changes in Air Force accounting as a management tool should consider the impact of these changes on the manager's responsibility for (1) securing and spending funds; and (2) planning for the future and controlling operations. After a discussion of the business functions of military managers, the manager's responsibility for funding will be examined. A specific description of current changes in accounting related to the manager's day-to-day operations will precede a discussion of his responsibility for planning the future. Finally all of these contemporary changes in the management scene will be considered from the point of view of those people who are likely to be most directly affected.

### Business Functions of Military Managers

The man who heads an organization and the executives on whom he relies to supervise workers are defined as managers. By this definition, the Chief of Staff, the Commanding Generals of Air Materiel Command, Continental Air Defense Command, Tactical Air Command, Strategic Air Command, and other organizations are managers. Also the executive head of an aircraft maintenance shop and the commander of a fighter squadron are part of the Air Force management team. Certain basic functions, in varying degrees, are the responsibility of each of these men.

The most important responsibility of the manager is to get the job done. This implies completing the job within a time limitation and a resources limitation; that is, the men are to be trained, the mission flown, and the aircraft repaired, using available time, manpower, facilities and supplies. Furthermore, resources must be acquired and de-

veloped to meet changing military needs well in advance of the time when they will be used in actual operations.

The lead time for training men and developing and producing airplanes and supplies requires from 1 to 10 years. Thus, a very large portion of the cost of getting an Air Force Wing into combat condition represents very large expenditures years in advance. This matter of paying for the things and services is a function common to all business activity whether it be the family, industry, government, church, or Air Force. The manager's responsibility for securing the needed funds and their importance in realizing operating objectives are examined next.

### The Money Problem—Funding

All activities related to securing money and paying Air Force bills are collectively referred to in this paper by the term "funding." The work associated with funding is the task of staff men. Managers, however, are required repeatedly to modify operating plans to conform with available funds. Air Force funding practice formerly dictated the scope of many accounting reports submitted to managers, as reflected in the past predominance of "cash-in, cash-out" type of data. Funding and accounting relationships will be explored later.

The type of funding arrangement used by an organization can either limit and restrict the manager or provide him with flexibility. Traditionally the purchase of Air Force services and facilities has been paid for out of funds provided by annual appropriations from Congress. This type of funding arrangement might be classified as the "Annual Congressional Appropriation." Under this arrangement, each year Congress appropriates a certain amount of money (or the authority to contract obligations for the U.S.A., which is tantamount to money). This appropriation is to be committed by the Air Force for the purchase of as much materials, supplies and manpower as can be secured for the fixed number of dollars. Generally, these funds are available only for a limited period of time, usually a fiscal year. Furthermore, the use of funds is restricted ordinarily to particular purposes. For example, a specified amount of funds is made available to purchase supplies or aircraft or for civilian payroll.

Where the use of specified funds is restricted to civilian personnel, and when actual operating requirements for civilian personnel exceed or fall below those anticipatetd in the financial plan, the manager is required to operate under a handicap. He is either overstaffed or understaffed. Either condition may continue even though a shortage or excess of funds exists for some other type of purchase. Such an arrangement inherently ties the hands of an otherwise well-intentioned manager.

Also, under this time-honored funding arrangement, there has been a strong tendency to obligate the appropriated funds in every fiscal year so they would not be lost. The feeling was that if funds were turned back to the United States Treasury, subsequent requests for new funds would be reduced. Due to this feeling, oftentimes funds were committed to the purchase of inventory, equipment and personnel solely to avoid returning money to the Treasury. Here again the time limitation on the use of funds was contrary to the actual money needs of the manager.

### A New Look at Finance

A new type of funding arrangement now being service-tested in the Defense Department is known as the "revolving fund" arrangement. Under this approach, an organization is initially provided with an amount of funds and other working assets sufficient to provide the working capital needed to finance normal operations. Examples of this type of funding arrangement in the Air Force are the Blue Uniform Clothing Fund and the Petroleum, Oil and Lubricant Fund. Perhaps it will be applied in the future to many other activities. The Department of Defense Printing Service of San Antonio, which is on a revolving fund basis, is under Air Force observation.

Organizations funded by a revolving fund charge their Air Force customers for the cost of supplies or services provided. In this way an Air Force maintenance shop invoices the transportation agency whose trucks it services. This arrangement establishes the normal buy-seller relation between groups providing products and groups using products. The customer, in turn, is financed from annual Congressional appropriations.

The manager of an organization funded by a revolving fund is free from the annual appropriation time limitation, and from the restriction of funds for specified purposes. In lieu of these restrictions, he is held responsible for operating his organization in a businesslike manner. He will have to recover the cost of operations through the sales price used to invoice customers. In this way, the entire emphasis of funding is freed from the traditional restrictions and refocused upon (1) working capital liquidity and (2) cost of operations.

In order to state more clearly the manager's need for flexible funding contrasted to his responsibility for controlling operations, it is necessary to define accounting and its part in developing management data.

### Accounting—For What?

The term accounting is sometimes defined as the art of preparing a financial picture of an organization. Collection, analysis and interpretation of financial data are all part of the accountant's job. This general definition of the term fails to emphasize the very important features of the current changes in Air Force accounting and their significance in terms of the manager's job.

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### Six Railroad Companies Seek "Different" Design

**Six of the nation's leading railroads—which together provide nearly half of the total U.S. rail passenger service—are pooling their talents on research and experimentation. The objective—new highspeed trains of "startlingly different" design. Experimental models to be tested by the six lines in various areas of the country include a monorail type train and one of tubular design.**

The Author

# Essential Management Functions

By JAMES H. HEALEY, Ph.D., Associate Professor
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THE functions of leadership are synonomous with the functions of management. While it is obvious that the duties of one executive will differ from the duties of another, there are certain broad functions which are indigenous to managerial positions in all associations: business, government, social, or military. The amount of each function included within the individual manager's responsibilities will vary with the level upon which he is located in the organization. The specific ones recognized as essential to all management positions differ, depending upon the source from which the functions have been obtained. Among the specific essential management functions which have been cited by various authors in the field of organization are:

1. Planning, organizing, commanding, coordinating, and controlling.[1]
2. Planning, organizing, assembling resources, directing, and controlling.[2]
3. Planning, directing, controlling.[3]
4. Planning, organizing, and controlling.[4]
5. Planning, organizing, commanding, and controlling.[5]
6. Planning, organizing, and controlling.[6]
7. Planning, anticipation, and coordinating.[7]
8. Planning, organizing, directing, coordinating, controlling, leading human efforts.[8]

Mr. Oliver Sheldon, in his widely quoted book, "The Philosophy of Management," has stated that he considers the functions of administration and organization to be "determination of business policy, coordination of execution of policy, the organizing of the business, control of the executives."[9] It is possible that a substitution of the word "planning" for the phrase "determination of business policy" is a correct interpretation of the sense of Mr. Sheldon's statement. A considerable similarity to the previous listings of functions may then be noted.

It is not too difficult to summarize the list of functions presented above by indicating the functions of management (or leadership) to be: planning, organizing, and controlling. The additional functions noted by some writers are considered by the others to fall within the scope of these three. Thus, as an example, one author notes "assembling resources" as a function. Reference to the works of the others produces the following typical passages:

Organizing is the process of creating and maintaining the requisite conditions for the effective and economical execution of plans. These conditions are principally concerned with morale . . . and the various physical factors of performance.[10]

To organize a business is to provide it with everything useful to its functioning: raw materials, tools, capital, personnel.[11]

Two similar terms, appearing occasionally as management functions, are "directing" and "commanding." Where these words do not appear in a listing of management functions, it seems that the writer considers them to be equivalent to, or a part of, the function of control. Both would appear to be comparative to the term "order-giving." Typical of the assumption that this phase of work falls within the scope of the control function is the following:

. . . control will almost inevitably involve paper work. As orders are passed down the line they will take the form of written memoranda so that subordinates may know precisely what is wanted, who wants it, and when.[12]

We shall consider control as including the order-giving function, which might also be called "directing" or "commanding."

Quite another matter exists for "coordination." There is a considerable body of opinion to the effect that this is an integral part of the job of leadership. Indeed, two popular writers in the field of organization and management, James Mooney and Alan Reiley, accord coordination a major place in the work of leadership. In the latest revision of their book, "The Principles of Organization,"[13] they devote a chapter to the function and also make frequent reference to the importance of coordination throughout the text. These men define coordination as "the orderly arrangement of group effort, to provide unity of action in the pursuit of a common purpose."[14]

Mary Parker Follett indicated very definitely, in a paper presented in two successive Bureau of Personnel Administration annual conference series,[15] that she regarded the coordination of interests of executives to be a major task of the chief executive. Significantly she noted, "Many a department head has a tendency to play a lone hand if not prevented."[16] Only the chief executive is in a position to coordinate the activities of the principal executives of a firm. Erwin

Schell makes a similar point for coordination by quoting the following passage from Dr. Edward D. Jones in reference to the major task of an executive—the organization of the will of his employees:

. . . the means by which you provide in a group of men for harmony of mood, harmony of attitude, or the desire of all to accomplish the same thing. This is what we call cooperation, or the right mental attitude toward the project at hand.[17]

While the term "cooperation" is used, the intent of use is not changed by substituting the word "coordination."

Robert A. Gordon refers to coordination as "perhaps the most important element to be included in our concept of business leadership."[18] Henry Fayol notes: "To coordinate is to harmonize all the activities of a concern so as to facilitate its working, and its success."[19]

In those instances in which writers in the field of organization and management have refrained from adding coordination to the functions which they believed to be necessary, or organic, to management, it is probable that it was their intent that the elements of coordination be included in organizing and controlling.[20] Nevertheless, it is difficult to find direct references in their works to the importance of effecting and maintaining coordination among executives. It is the opinion of this writer that coordination should be added to the list of basic functions of management. In summary, the principal functions of management or leadership are: planning, organizing, coordinating, and controlling.

*Planning.*—Planning is the study of the future, immediate or distant, and the evolution of a series of proposals for action. It results in a business plan or a plan of action. This plan of action will be a synthesis of considerations of past performances or occurrences, the present situation, and a forecasting of the future. It should be noted that the plan may never be used, for it may have been prepared in anticipation of conditions that never came into being. An example of this would be a plan of action for the evacuation of a factory in the event of an air raid. Many factories had such plans during World War II; but the conditions incident to the executions of the plan did not materialize. The planning function brings into play all facets of the firm's management and its mental resources. "The preparation of the plan of action is one of the most difficult and most important matters of every business and brings into play all departments and all functions, especially the management function."[21] Planning can not be confined to any one segment of an organization or any one group of its personnel. It is predominantly a management function; but there are occasions in the normal operation of a business when the lowest echelon employee may have to pause in his physical efforts to decide upon a course of action. "There is scarcely a business activity, whether in finance, marketing, or production, that does not call for planning in some degree. The more complex the problem, the more essential this basic function."[22] The function is basic in that it should precede and form a base for the other management functions of organizing, coordinating, and controlling.

The scope of planning is organization-wide, including such basic topics as the formulation and clarification of objectives and of policies, the determination of essential programs, and evolution of procedures for operation, and the resolution of essential functions.

*Organizing.*—Organizing is the process of integrating the functions requisite to the successful achievement of the objectives of an enterprise into a coordinated structure, staffing this structure with qualified, competent personnel, and supplying them with the physical factors necessary to perform their functions. An enterprise is created to achieve certain purposes or objectives. Management guides it toward the satisfaction of these aims or goals. Organization is utilized by management as a framework within which personnel can operate to further the purposes of the undertaking.

There are three phases or parts in organizing any business or any form of association. The first is the formulation of an organization structure. Frequently crystallized as an organization chart, this is an assembly, with each part in its proper place, of the phases of work considered necessary to fulfill the objectives of the enterprise, a process of analysis must precede the development of the structure to determine what phases of work will be required in the operation of the undertaking. This process, which is called functional analysis, falls within the pervue of the planning function. The grouping of the defined functions into an integral unit, an organization structure, is the first phase of organizing.

The second phase is the provision of the requisite personnel to staff the structure. This is the "manning" part of organizing. It consists of selecting competent personnel to satisfy the man specifications for each position represented in the organization structure. Again, the determination of the specifications required can be considered more properly as a part of the planning function.

The third part of organizing is providing each person with the physical factors needed to perform satisfactorily the obligations of his position. Tools, materials, and equipment are included in the concept of physical factors.

With competent manning of a well-planned organization structure and with each employee provided

(*Continued on page* 17)

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### *Franklin Kreml Director NU Transportation Center*

Franklin M. Kreml, director of the Northwestern University Traffic Institute since its establishment, has been appointed director of the University's new Transportation Center, President J. Roscoe Miller announced today.

Mr. Kreml's appointment, effective March 15, is for one year. Ray Ashworth, executive assistant to the director of the Traffic Institute, will be acting director during Mr. Kreml's absence.

The Transportation Center will carry on programs aimed at solving major problems in the highway, rail, air, pipeline and water divisions of the nation's transportation industry.

# Building Understanding Through Better Communication

By Harry D. Kolb

Manager, Employee Communication Division
Esso Standard Oil Company

THE challenge to American businessmen to develop a better understanding of their firms and operations, among employees and the public, has led to accelerated communication programs. The basic thought behind programs aimed at employees has been, through the economic education of employees, business will be better understood, both in the plant and in the community.

While important, this should not be the principal objective of industry's communication program and it can come as a result of good communication efforts, aimed at the broader target. The real goal is a more effective operation, which results from the development of cooperative relationships, based on understanding between people and not upon education in economics or other fields.

Industry has a real stake in working toward a more effective operation, through improved motivation of employees, and future leadership in this field will not be predicated on better wages or better benefits. Although there is not too much opportunity for a company to get a big lead over its competition, there is plenty of opportunity to make new gains in the field of better working relationships between people. There is both opportunity and need to find ways to help employees discover greater satisfaction on the job.

One of the principal obstacles to cooperative relationships lies in the field of communication. Today, any company's employees expect more information and expect greater opportunity to hear and to be heard. With the burden to make a real effort to explain its actions placed on a company, it must not leave to chance the matter of building understanding of what the company is doing and the problems it faces. Efforts to build understanding should be aimed at dispelling false concepts, through a day-to-day recital of current happenings affecting employees.

Does this require a deep and thorough grounding in basic economics? Some think so and have directed a lot of energy into mass education projects. I wonder how effective such education is and whether it is necessary to move in this direction.

When we use the term, "understanding," do we really mean that the individual is fully versed in such matters as economics of the business? I think it is more important that we recognize the attitudes of the individual rather than his knowledge. If employees have the feeling that they are being kept informed and that they are able to get information about the company as well as answers to their questions, isn't that enough? The feeling of being kept informed supplemented by the opportunity to communicate, will build better understanding. Out of such understanding comes the atmosphere of cooperation so eagerly sought by industry.

One of several routes to cooperation is the boss' plea, "Let's get together—you and I will cooperate." Another route is based on quasi-loyalty where the individual cooperates with the boss because he feels he has too big a stake in his security to risk losing it. Still another route is based on intimidation with a show of force, either on the part of management or labor. None of these is as effective, or sound, as the route of building cooperation based upon the common interest which management and labor have in the success of the enterprise. Although constant effort is needed to point up this area of common interest, there are many who emphasize the opposite. Their efforts tend to stress the gulf between employees and the management and to point up areas where interests of these two groups conflict or divide.

We have to believe that there is a common interest and that our efforts should be directed toward emphasizing this area. Bertram Russell pointed out that individuals would cooperate in a situation once they were able to see their own self-interest. Much of industry's communication efforts should be aimed at doing exactly this.

The word *communication*, in itself, means so many different things to people today. Ask a man what he is doing, in the field of employee communication, and he is apt to talk to you about devices such as publications and discussion groups; another man will think in terms of propaganda efforts to emphasize the American way of life; another man will think in terms of his program for better human relations on the job; another in terms of economics courses. Here you have a word being used in one sense to represent a process, by others to represent content, and by others to represent channels. What do we mean by the word? I like to emphasize its meaning in terms of a process—a way of working with people. To me, the right definition of the word *communication* (spelled without an "s") is, "A process involving an exchange of ideas or feelings between people." Maybe we need another word to talk about the contents (the communications) which flow through this process.

But no matter what we call it, we are dealing with a means of gaining information and transmitting reactions.

Extending over all of our contacts between people, it is a process

involving a communication flow between management and its supervisors, management and its employees, management and the union, and each of those groups with each other.

Looking at a particular plant in my own company, to analyze how a typical employee receives information about the company and its activities, we find first, and perhaps even vitally important, is the information flowing through the grapevine from his friends and people with whom he comes in contact. A normal and natural procedure, it gives a great deal more information and is a great deal more valuable than we are apt to believe. Next, there are the efforts of his supervisor, talking to one person or to groups, to funnel information to and from management. Also to be considered are the union's efforts, through its individuals, its newspapers, and meetings.

What on top of these normal procedures does the company feel is important? There is need for a regular flow of printed information and an occasional opportunity for a verbal exchange with management. This printed information is often carried through a bi-weekly local plant paper which has as its objective doing an industrial journalism job rather than merely conveying social news. In addition, from time to time management needs to present important thoughts through pamphlet form and, once a year, to bring a summary of the year's events and a score sheet in terms of an annual report.

The opportunity for verbal exchange with management seems to have had the best results in a type of employee forum, held once or twice a year, in which a senior member of the local management meets with employees. His objective is to present a summary of the "how well are we doing" type, looking backward and looking ahead, but putting the emphasis on the local plant's activities. He aims to gather a group of 50 to 100 employees at a time and to set up an atmosphere for easy and extensive questioning of management by the employees.

A lot of effort, yes, but superintendents in Esso plants of 2,000, 4,000, and even 8,000 employees, have reported they are well satisfied that the effort should be made. The fact that management undertakes anywhere from 20 to 100 meetings, in order to cover all the employees, is tremendous evidence of the importance attached to building better understanding with each individual.

Not long ago, Fortune Magazine analyzed labor relations within the Esso organization and pointed out that this company hasn't had a strike since 1916. In the article, the author said, "One cannot expect so velvety a relationship to last forever." Yet, why shouldn't it if men, imbued with good will, continue to seek the way to work together with their people and make a real effort to build understanding?

Some of this effort has gone into areas which, heretofore, have been considered areas of confidential information, to be reserved for management only. For example, Esso Standard Oil Company is a 100%-owned subsidiary of Standard Oil Company (New Jersey), and as such has no legal requirements to publish a separate annual report or financial statement of its own. Yet, last year this company won top honors in the country for an extensive type of annual report it prepared just for its employees.

In the discussions by local superintendents with their employees, individual plants have given not only financial data on the corporation as a whole, but also material pinpointing the financial data for their particular plant. Superintendents have gone into such matters as operating costs and a complete profit-and-loss analysis of the individual plant. One of them recently showed employees his monthly profit and loss figures and pointed out the influence of steady operations on this curve.

Two questions bother people who contemplate such action, the first being, "how far should you go?" The other is, "Why make the effort to explain matters which employees normally don't have a right to know?" These must be answered by the individual, for, unless you are convinced that the effort is worth while, it's hard to be very consistent and to work at this job.

We all recognize that knowledge of the business is pretty sketchy on the part of employees, as many polls and quizzes have proven. An explanation for this may be found in the type of information which has been made available to employees. Perhaps it hasn't been aimed at encouraging them to see their own true self-interest, with the result that they either forget, or reject the facts which have been given to them. Companies have been guilty of emphasizing matters of real interest only to top management, or they have issued communications to employees which have the patronizing tone of, "Look how fair we are," and the implication, "You should be thankful." Also, they have often shed copious tears about taxes and Government interference, definitely expecting employees to be deeply concerned and to remember faithfully such data.

Much more significant is the type of business news which centers on a small enough portion of the business that employees can understand it. Primarily, this is their own plant and even their own department. Our own efforts on this local emphasis have been most encouraging, and we have more employees who now recognize the influence of continuous use of equipment on the profit and loss figures of their own plant. In having them recognize that plants within a single company are in competition with each other, they have become conscious of the need for greater efficiency in some plants, to overcome geographical handicaps which raise transportation

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**Dragon**

**A tramp knocked on the door of an inn known as "George and the Dragon". When the landlady opened the door the tramp asked:**

**"Could you spare a hungry man a bite to eat?"**

**"No," snapped the woman and slammed the door in his face.**

**The tramp knocked again and slipped his foot in as the woman opened the door. "Could I speak to George?"**

### *Russia Training More Engineers Than U.S.*

Russia is turning out more than twice as many engineers yearly as the U.S.—54,000 to 20,000. The Soviets have almost overcome our long-standing advantage in technical and scientific manpower.

This is the warning which came from a recent Chicago conference of government, industrial and scientific authorities.

Among suggestions offered by the conferees to reverse the trend were pay raises for engineers, particularly those working for the government; greater emphasis on technical training by American educational institutions; and expanded opportunities for women in the engineering professions.

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costs and limit output. This type of economic education is real, down-to-earth, and people seem to grasp it better than pure theory.

To make such data available requires added effort on the accounting side of the business, but the effort we think is worth while. It also requires taking the word "*confidential*" off many of business reports and necessitates building up middle management's confidence. With confidence, they are encouraged to pass on business information given them to employees.

Some of our best efforts in this direction of giving business information have included matters such as these: We have presented in employee forums the real story of how our products are priced. We have given information on plant investments and future budget plans. We have dealt with wages, costs, and with salary policies. We have given detailed breakdowns on employee benefit costs.

Frequently the question is asked, "How can one decide whether or not employees should be given certain business information—particularly, the type of information they don't really have to know and in which there is some worry about publicizing things which can help your competitors?" The leaders in our company have taken the stand that we have no real secrets from our employees. The real test, of course, is: will this information be helpful, even if it isn't fully understood; will it demonstrate that the company really believes in open communication; will it show the employees that the company is interested in them and respects their intelligence and interest?

As we have gained experience in this direction, it has been gratifying to see that last year's fears have *always* proved groundless. We have had no reason to regret moving in this direction.

We become more conscious of one thing, the fact that the words used in communication are sometimes blocks to understanding. Someone talking on this subject recently pointed out that if you put a Chinese and a Portuguese at opposite ends of the telephone, they can be very active trying to communicate, and yet there will be no exchange of information unless one knows the language of the other.

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### *Army Tests Use Of Smoke Screen For A-Protection*

Washington (AFPS) — Laying smoke screens over cities threatened by atomic attack may reduce casualties from A-bomb attack heat by as much as 5 percent. This disclosure was made recently by the Army's chief of chemical and scientific officer.

U.S. military authorities believe the use of smoke will prove a major method of defense against one of the chief effects of thermonuclear assault. It was tested at the most recent atomic maneuvers in Nevada.

A smoke screen would serve to "cool" the atomic blast in much the same way as the heat of the sun is modified on a cloudy day. Means are being studied to blanket target areas with smoke in less than 15 minutes if necessary.

However, Maj. Gen. William M. Creasy, USA, Chief of the Chemical Corps, cautioned that smoke won't alter two other effects of an atomic explosion—the blast wave and radiation caused by gamma rays. But he said the Army is trying to find ways of minimizing gamma radiation effects, too.

Gen. Creasy said two kinds of smoke can be used in atomic defense.

Business has many words which it takes for granted. These words may be understood by employees, but at the same time may also create hostile feelings. It's like talking to a union about crossing trade lines. As soon as you mention that word, emotional reaction rises and resistance sets in. On the other hand, if you had started talking about building up the worker's job, then there is more chance that the problem would be approached with an open mind.

Take another example. Suppose there is a political speech reported in the paper. If the man making it is from your party, you approach the speech with an initial start towards acceptance. On the other hand, if he is someone you oppose, you start to read his communication with an attitude of rejection.

Take some of the words which have been created recently to represent good ends which labor is seeking. Words such as "guaranteed annual wage." This sounds like a good thing. If the company opposes it, it is apparently opposing something which employees would like to have. On the other hand, many a company has failed to communicate during the past few years the steps it has already been taking to provide steady employment.

Similarly the label, "fringe benefits," creates a mental picture of something small, and therefore, not really too great a burden on management and something they should be able to afford. Thus, in a labor dispute over a fringe benefit, management is at a disadvantage and probably should find a substitute word to more accurately show what a large portion of operating costs this whole benefit area represents.

Good communication is dependent on building a feeling where people want to understand each other. It's a matter or substituting understanding and trust for attitudes of prejudice and distrust. For this reason one of the big jobs in all types of communication for management is to stress sincerity and fair motives and to demonstrate respect for the other fellow's feelings. Employees, particularly if hostile, will not be converted to management's views on the spur of the moment. But they will be con-

verted over a long period of time if they receive a series of favorable impressions, that move them toward friendly attitudes, not necessarily toward conversion in one fell swoop.

It is for this reason that those who analyze communication activities become more and more convinced that effective approaches to understanding must be based not so much on facts and figures, as on an atmosphere of good human relations.

Communication as such isn't our goal. It's a means of working toward the cooperation which can make the enterprise successful, but this cooperation in turn cannot exist for long unless the whole atmosphere in the organization is conducive to building good human relations on the job. With good relations we have made a very large step toward achieving understanding and trust. We can then help maintain that understanding by working at the job of more effective communication.

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### Essential Functions

(*Continued from page* 13)

with the necessary tools to discharge his obligations, conditions are established for the maintenance of good morale throughout the enterprise. Thus, organization becomes the means for effective group action.

*Coordinating* — Coordinating is the process of indoctrinating the personnel of an undertaking with a unity of purpose and of maintaining a continuing harmonious relationship among the various people in the group. It is essentially a force which is effective in getting the individual members of the organization to subordinate their personal objectives to the objectives of the organization. It is force, also, which encourages and promotes a willingness of every member of the group to cooperate with every other member of the team. When this force is effective, it is evidenced by many cooperative actions and a general feeling and willingness within the enterprise to "hear the other fellow out," to get expressions of opinion from one's associates on various pertinent matters, and to engage in group action.

The maintenance of conditions conducive to cooperative effort is a basic function of leadership. Organization can provide a framework for effective group relationships, and control can exercise a certain restraint which will contribute to cooperation; but a basic mental willingness of all members to cooperate must be present to secure best results. It is the function of management to create and perpetuate the conditions under which this mental attitude can come into being and can continue to exist. "To coordinate is to bring harmony and equilibrium into the whole."[23] The continuous nature of coordination has been recognized by several eminent writers in the field of organization. It is a function which sets the stage for the performance of delegations of effort. The various delegations will not be homogeneous in nature but will be related. Assuring a coordinated performance of the various delegations is a principal task of the executive making the assignments of authority and responsibility. An assurance of performance comes from the effective employment of the function of coordination which creates a desire or will in the subordinate to continuously carry out the tasks assigned to him to the best of his ability.

*Control.*—Control is the process of regulating the various factors in an enterprise, in accordance with the requirements of its plans, to achieve a desired end. All of the factors of an enterprise are included: men, money, materials, machines, and methods. The regulation may be any or all of many forms. Regulatory devices used include the organization chart, budgetary control, standard operating procedures, quality control, and others. Regulation may be oral, written, or some combination of both. The mental phases of work which create the various aspects or devices of control fall within the scope of planning and organizing. Control is the utilization of these tools to see that the directions of management are properly communicated and are carried out within the allotted time for performance. It includes the removal of interferences with the operation of business plans and the adjustment of conditions to prevent a recurrence of an unfavorable event, or to perpetuate the occurence of a favorable event. Control is concerned with results. It seeks to cement the structure of events which will create the most favorable results for the undertaking.

[1]Henri Fayol, *General and Industrial Management* (New York: Pitman Publishing Co., 1949), Chap. V.

[2]William H. Newman, *Administrative Action* (New York: Prentice-Hall, Inc., 1951), p. 4.

[3]Elmore Petersen and E. Grosvenor Plowman, *Business Organization and Management* (3rd Ed. Homewood, Ill.: Richard D. Irwin, Inc., 1953), p. 189.

[4]C. Canby Balderston, Robert P. Brecht, Victor S. Karabasz, Robert J. Riddle, *Management of an Enterprise* (Rev. Ed.; New York: Prentice-Hall, Inc., 1949), p. 6.

[5]John R. Beishline, *Military Management for National Defense* (New York: Prentice-Hall, Inc., 1950), p. 34.

[6]Ralph C. Davis, *The Fundamentals of Top Management* (New York: Harper and Bros., 1951), p. 14.

[7]Henry C. Metcalf and L. Urwick, *Dynamic Administration* (New York: Harper and Bros., 1942), p. 266.

[8]George R. Terry, *Principles of Management* (Homewood, Ill.: Richard D. Irwin, Inc., 1953), p. 5.

[9]Oliver Sheldon, *The Philosophy of Management* (London: Isaac Pitman and Sons, Ltd., 1930), p. 32.

[10]Ralph C. Davis, *Industrial Organization and Management* (New York: Harper and Bros., 1940), p. 35.

[11]Henri Fayol, *op. cit.*, p. 53.

[12]C. Canby Balderston *et al.*, *op. cit.*, p. 7.

[13]James D. Mooney, *The Principles of Organization* (New York: Harper and Bros., 1947), Chap. II.

[14]*Ibid.*, p. 5.

[15]As noted in Henry C. Metcalf and L. Urwick, *op. cit.*, p. 247.

[16]*Ibid.*, p. 260.

***MUSIC***

**Figures show that Americans spend more money annually on classical music than on baseball. Still, you never hear 2 men on the bus arguing about whether the local philharmonic orchestra pulled a boner in trading an oboe player for a kettle drummer and 2 utility woodwind men.**

**—BILL VAUGHAN**

[17]Erwin H. Schell, *The Technique of Executive Control* (New York: McGraw-Hill Book Co., 1942), p. 8.

[18]Robert A. Gordon, *Business Leadership in the Large Corporation* (Washington, D.C.: The Brookings Institution, 1945), p. 52.

[19]Henri Fayol, *op. cit.*, p. 103.

[20]As an example, Ralph C. Davis notes on page 36 of *Industrial Organization and Management:* "Control . . . consists of three principal phases: . . . (2) coordination of effort in conformity with the requirements of the plan. . . ."

[21]Henri Fayol, *op. cit.*, p. 43.

[22]C. Canby Balderston *et al.*, *op. cit.*, p. 7.

[23]Henri Fayol, as quoted by Norman B. Schreiber, *Philosophy of Organization* (Chicago: A. Kroch and Son, 1942), p. 4.

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### Accountant's Role

(*Continued from page* 11)

The accounting picture involves the preparation of two separate and distinctly different statements commonly referred to as (1) the balance sheet and (2) the profit and loss statement. Prior to 1946, most regular Air Force accounting reports were the balance sheet type. Recent changes in accounting have resulted in some regular Air Force accounting reports that are, in essence, the profit and loss statement type. (But even in 1954, there is adequate evidence to show that this transformation is only a partially accomplished fact.)

The significance of this changing emphasis in Air Force accounting may become more clear when one considers the true nature of the balance sheet type of statement. This statement portrays the financial status of the resources which are owned by (at the command of) an organization at a specified date. Included in these resources are such things as cash, inventory, supplies, equipment, land, buildings and other property of the organization. The balance sheet report, however, makes no attempt to picture operations of an organization. It is fundamentally concerned with the funding and accountability aspects of the Air Force Manager's total responsibility at a certain date. On the other hand, the profit and loss statement pictures the results of operations over a period of time. It is this "result of operations" that is the first and foremost responsibility of the manager rather than the "status of things" on a certain date.

A closer look at the basic type of data contained in the profit and loss statement will focus more accurately its particular value to the manager. This statement contains two kinds of data: (1) the cost of operations and (2) a financial yardstick of the benefit resulting from operations. A comparison of costs and benefits provides a measure of managerial efficiency. It is a financial comparison of input and output.

The term "cost of operations" means resources used or consumed in doing the job. The fewer resources a manager can use in doing his job well, the more efficient he is. Thus, the profit and loss report provides a financial measurement of the organizational effort used to do the job.

The other type of profit and loss data, describing benefits of operations, may be developed in several different ways. In the usual commercial or industrial organization, it is represented by the company's sales of services or products. In an Air Force revolving fund organization, it is also represented by sales. In either instance, however, the sales figures may represent only a superficial index of real benefits provided, since they are generally far removed from the multitude of individual specific duties that are required to accomplish organizational objectives. Consequently a manager who wants to reduce costs must consult data other than sales figures. It is not uncommon to find even in the most profit-minded industrial corporation that engineering studies and managerial judgments represent a far more important yardstick of operating benefits than do the nominal sales amounts.

A good Air Force example of engineering studies which are used as a yardstick of accomplishments is found in the "Earned Hour Reports" for Air Force maintenance activities. The earned hour report represents an estimate of the time which should be required to perform a particular maintenance task considering the quantity of work to be done and the equipment and skills available to do it. This yardstick of time is set at reasonably attainable levels. If the task requires more than the allowed time, excess time becomes the subject of inquiry.

Not uncommon in many well-managed corporations, the "operating expense budget" (the estimated operating cost of a work program) assumes great importance as a target or yardstick against which "costs of operations" are evaluated. It seems reasonable to believe, in view of changing times, that the "operating expense budget" will in due time assume a similar position of importance for the Air Force manager.

Another explanation of the difference in concept between the Profit and Loss Statement and the Balance Sheet may help to sharpen the contrast. If the question were posed, "What does your car cost?", your answer might be (1) the purchase price of the car—say $2,800, or (2) 8¢ a mile, which is the cost of using the car in terms of operations (purchase cost divided by the miles driven). The $2,800 answer can be identified as the *"acquisition cost"* or the funding point of view; the 8¢ per mile is the operating cost or *"use cost"* point of view.

Many investigations on the efficiency of government operation have been centered in terms of the price of the car. For example, if A pays $3,200 for a car and B pays $2,800, it has been argued that B made a savings or was more efficient than A. The use cost of the car depends more on the total miles the car is driven than on purchase price. Thus, if B's car is worn out or used for only 50,000 miles and A's car gives good service for

### PRODUCTION

**Today, the average American though he works about 15% fewer hours has roughly 50% more purchasing power than he had a quarter century ago. This remarkable advance in material welfare is almost entirely the result of the fact that national productivity, which may be defined as average output per man-hour, has shown an average annual increase, since '30, of more than 2% a year.**

**—GILBERT BURCK.**

100,000 miles, it may be argued that A has decidedly the lower cost of operation since $3,200/100,000 equals $.032/mile, while $2,800/50,000 equals $.056/mile (assuming other costs per mile are constant).

For this example, it should be clear that the term "cost" has at least two different meanings—(1) funding or "acquisition cost" meaning and (2) cost of operations or "use cost" meaning. To evaluate accounting reports in terms of their effectiveness as a management tool, one must distinguish between a manager who receives only the "acquisition cost" type of report and the executive who receives both types, since each man will be keenly aware of problems that are repeatedly brought to his attention through the normal accounting reports. Because the manager has in the past received only the first-mentioned type reports, the accountability for things, his adherence to approved allowances for equipment, supplies and personnel, and his use of care not to exceed approved quantities of funds have long been recognized as management problems. On the other hand, very few managers have had more than a remote idea of the "use cost" of operating their organization.

Thus, accounting reports of the profit and loss type, when adopted by AF accountants, will provide managers with effective tools for efficient operation of their activities.

### Estimating the Future and Controlling Operations—Budgeting

Budgeting is the next area of managerial responsibility to be examined in terms of recent accounting changes. Generally, the term budgeting is defined as "managerial planning." Here again, for many years military budgeting procedures and practices have dealt largely with securing additional funds. Since the old-time money-budget request (based on acquisition cost) was limited to funding problems, it should be apparent that it would be hopelessly inadequate as a management tool to develop the cost of a future plan of operations because operating cost must be figured in terms of work to be done and not merely in terms of short debts to be paid. Although funding is clearly an important aspect of the manager's planning job, managerial planning for efficient operations is even more important. The need for a concept of budgeting which includes (1) a balance sheet budget and (2) an operating budget is interwoven with the change in accounting that develops the "cost of operations."

Budgets solely concerned with funds and the payment of bills represent an integral part of any budgeting activity. However, funding-budget determination rests to a large extent upon the amounts of current and long-term debts incurred by the Air Force. More specifically, they depend on the month-to-month bills which must be paid by the Air Force. Paying Air Force bills has no direct relation to the cost of Air Force operations. This is true for the simple reason that the cost of Air Force operations may be better defined as "the resources consumed in operating organizations" than as "cash paid out." This fundamental distinction between paying bills on the one hand and using resources on the other hand is at the very heart of the distinction between the old type funding and budgeting arrangements and the new type which reflect operations—the primary responsibility of the manager.

Under the so-called "operations budget," the manager will need to estimate the cost of operating his activities. Also, he will need information regarding the type of mission for which he will be responsible. The estimated cost of performing the mission will represent, in part, supplies, equipment and personnel to be purchased and used in the budget period. These purchases and others will affect both the money budget and the operations budget. For other operating needs, however, the manager will require no cash. In estimating future operations, he must also consider the need for equipment, supplies and materials which are presently on hand in inventory, and the facilities and fixed assets which were purchased in prior years. He must consider the urgency of the time schedules that he will have to meet, and the qualitative aspects of his work. The operations budget emphasizes the quantity of work to be done and the cost of doing this work.

The operations budget distinguishes between the so-called direct efforts or costs that go into getting the job done and the indirect or overhead support efforts. This type of budget places "operations" in proper perspective independent of artificialities inherent in the funding picture, such as year-end limitations, restricted funds for particular purposes, and the like. It lets the commander's planning decision rest more on its ultimate effect on the cost of operation and operating results than upon the contingency that funds may not otherwise be spent.

The dual purpose (acquisition and operations) of budgeting is a natural part of the management picture under a "revolving fund" arrangement. Also, on the revolving fund basis, the balance sheet and the profit and loss reports are normally an integral part of the accounting system.

### Human Relations—The People

Some consideration of human relations is fundamental to the changing management picture. A manager is the ruler of people more than the ruler of things. Not only is he the ruler, but also the servant, since his job gets done through the people in his organization.

In the immediate environment of the manager, we find a variety of staff assistants. Many of these men have had a long and honorable association with the "old-time" systems of funding, accounting and budgeting. These very same men are looked to by the manager for guidance and leadership in undertaking the current changes in ac-

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### *ATOMIC AGE*

**Any balance sheet of the atom begins with a colossal liability—the potential end of civilization altogether. It is offset, however, by an almost equally colossal asset—the potential end of war. Atomic energy threatens on the one hand to terminate an interesting biological experiment among the anthropoids; on the other, as long as the trigger is not pressed, it can frighten nations into keeping the peace—at least beyond little "brush fire" wars.**

**—STUART CHASE.**

**PUZZLE**

**We're still puzzling over this item in a recent issue of *Newsweek:* "9 out of 10 people (in the U. S.) are foot sufferers, 70% of them women." We don't know who got what figures balled up, but with the sexes in approximately even division, this just doesn't figure. Try it.**

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counting. A large share of the burden of making the changes of accounting effective for the manager will rest on these staff men. For these staff men to undertake such a wholesale about-face in point of view, in technique, and in technical know how, will require an unusual degree of open-mindedness. These men under the former systems often held control over many management decisions. On the other hand, their staff jobs were made more difficult by a lack of operating flexibility in funding, budgeting and accounting. Under the extensions of Air Force accounting, these men will move into a position of greater responsibility for technical aid to the manager in controlling operations.

The line supervisors, the managers and executives, form another group of people in this situation. Under the former system of funding, budgeting and accounting, these executives were artificially restricted many times from proceeding with a more efficient scheme of operations due to the somewhat arbitrary and artificial limitations which were enforced on the use of money, manpower, equipment and supplies. For these commanders, the extension of accounting data into the field of operations should come as a welcome innovation! Moreover, under the new arrangement, the manager will be given much greater latitude to exercise his management functions. He will estimate the "cost of operations budget" in place of the former quota. At the same time, he will assume greater responsibility toward the business end of his operations. He will be judged by his ability to meet and beat his estimated operating costs and still provide acceptable qualitative and timely results.

A third group of people involved in these changes are those persons in service organizations who provide support to the operating activities. The distinction between service or support contrasted to operations is a relative distinction. Thus, the Air Materiel Command maintenance of aircraft in the total Air Force picture is a support activity to Strategic Air Command, Tactical Air Command and Continental Air Defense Command, the operating commands. Within the maintenance activity, staff agencies represent support to those performing the maintenance job. Even in the accounting office (a staff agency) there is a distinction between direct and support areas. The people who do the accounting work are considered direct. Those who assist the direct workers are in a support category.

Under the accounting extensions discussed here, there will be a distinct tendency to separate support costs and direct costs. This separation will emphasize costs which are not immediately susceptible to executive action in the interest of greater output at lower cost. This distinction will focus attention on finding new ways of doing the job and simplifying support. It will raise the question, "Who should be responsible for the support cost in terms of the finished job?" Should the executive in charge of the direct costs (for which support costs are required) be responsible for both direct and support costs, or should he be responsible only for those costs under his immediate control with the support supervisor responsible for costs under his control?

Resolving this problem of placing responsibility for operating cost will likely give rise to many contests between individuals. These individuals may reflect not only the newness of new management data, but also of the new importance attached to "cost of operations" instead of "expenditure of funds" or "exceeding an allotment for supplies, equipment or personnel." The old financial standard of measuring excellence is due to go—and the lower cost of operations concept is due to replace it.

### Our Challenge—The Future

The management job of the Air Force of the next generation promises to be an even greater task than it was in the generation just past. With the increasing pressure for ultra destructive weapons and suitable defense, Air Defense may well represent the nation's claim to continued international prominence.

The index of the real strength of this future Air Force could easily be the operating alertness of its management. Under the current changes in accounting, funding and budgeting, Air Force management will be examined repeatedly with respect to operating efficiency. No longer will management be judged solely by the obsolete standards of "living within approved quotas," of "preventing minor theft" and of "using funds only for the purpose authorized." Under the new arrangement, quality of management will be judged also by the success shown in getting operating results. The effect of the present shift in management focus is clearly a move in the direction of increased operating alertness.

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### Mufti or Khaki

(*Continued from page* 7)

them monthly presents and instituted a house organ called "The Blazed Trail" which gave them up-to-date news of the local goings-on. Their letters to us were re-produced in "The Blazed Trial" and the originals carefully preserved in a hugh scrap book which is now considered to be a part of our vital records. We are proud of the fact that so many of these men elected to return as part of our "family."

The examination of this inventory proves that A. & F. exists for people of sporting instincts who know what they want and, if what they want is not in stock, we will obtain it for them. We have sold jinrikishas, hoods, jesses and leashes for the ancient sport of falconry; two live reindeer, a tread mill for exercising dogs and shirts of chain mail for oil workers in the Colombian jungle where the native Indians lurked in the bushes with poisoned arrows.

### On Selling

Twice each year our Director of Personnel conducts refresher courses for all salespersons in the store realizing that sales training is

a continuous process and not sporadic. Our salespersons operate on a basic salary plus a standard commission throughout the store. We point out that salesperson "A" garnered X number of dollars in commissions during the fiscal year while salesperson "Z" garnered a much smaller amount. We point out that salespeople in *any* department have equal opportunities and that if salesperson "A" comes out on top it proves that he is a better salesperson than salesman "Z" who is the low man. We give our salespeople exact figures and cite percentage examples on suggestion selling – a very important factor in the retail business – in order to show that many salespersons are not making the most of this most powerful and successful method of bringing business to the store and more commissions to themselves. If a customer should voice a price objection we point out to the salesperson that he has failed to sell *value;* that it is important to realize that all prices are relative and that his job as a salesperson is to educate the customer to a *true appreciation of values* so that the price when measured against the values which he has so built up will seem small by comparison.

We stress five essential points to remember toward better selling:

1. Prompt attention.
2. Awareness of the customer's presence.
3. Smiling courtesy.
4. Say "thank-you" and *mean it.*
5. Bid the customer "good-bye", call him by name, and ask him to come in again.

We impress upon our salespeople that they are the hosts and hostesses to the customers who visit us. The opinion which our customers form of the store is based upon the manner "in which they are received by you, the SALESPERSON." We demand that our salespeople treat customers as guests of the store.

### Organization

Directly responsible to the President is the Executive Vice-President who directs the merchandising policies of the men's and women's clothing departments, the shoe departments and, in fact the general merchandising policies of the entire store. Under the direction and guidance of the Executive Vice-President, another Vice-President merchandises the Gun, Fishing Tackle and Camp Departments; another the men's clothing; another the Main Floor (Athletic equipment, gifts, jewelry, etc.) and another merchandise and inventory control. Inventory meetings are held weekly where buying power, budgets and general policies are discussed and determined. Once each month there is a meeting of the Management Committee which is composed of heads of twelve departments. At these meetings, at which the President presides, general opinions are aired and every person is given an opportunity to "speak his piece." At these meetings decisions are made which direct the general policies of the company.

### The Future

It is our earnest desire to supply the highest quality of sporting goods, clothing and equipment to our customers for many years to come. Abercrombie & Fitch is proud of its heritage, its world-wide reputation for *quality merchandise* and its never failing determination to serve, and serve well, its customer clientele. Our practical aims might be neatly summed up in a sentence which could well serve as a motto: "This store is equipped for people who want to have fun."

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### Ordnance Management

(*Continued from page* 9)

procured the transfer of Captain N. P. Allhiser, of the anti-aircraft artillery, who prior to his recall to service had been training coordinator at Dr. Moberly's Industrial Management Institute at the University of Wisconsin.

Beginning on the 22nd of March, these two men working on a blackboard temporarily fastened to the wall of a room in Building 90, Rock Island Arsenal, to serve as a planning board, planned the necessary steps to be performed to receive the first group of enrollees on 21 April, 1952.

Following a conference with Colonel Warner, the Commanding Officer of Rock Island Arsenal, to establish proper points of contact


# A BETTER WATER VAPOR BARRIER!

*Richkraft 65*

**for under concrete slab and over crawl space where slab is not poured on the ground.**

● Richkraft 65 is the lowest cost membrane capable of meeting rigid fungus and moisture vapor conditions. The Kraft sheets are pre-treated with special fungicide in accordance with Housing Research Series No. 15 H.H.F.A. Under test, Richkraft 65 was an effective membrane to fungicide and moisture after constant exposure equal to years of time.

Richkraft is easy to lay and easy to inspect. Tough, wide sheets resist puncture and leave a smooth, non-sticky surface for the trades that follow. Two men can do all the work needed. Richkraft 65 actually costs less laid down than two layers of 15 lb. felt mopped or 55 lb. roofing.

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**OVERWORKED?**

**To earn enough to buy a pair of shoes**

**An American works about 7 hours**

**An Englishman labors over 20 hours**

**A Russian slaves for more than 100 hours.**

**In America**

**50 million have savings accounts**

**85 million own insurance policies**

**15 million or more own a share of stock or an industrial bond.**

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for local services, Captain Allhiser undertook the procurement of equipment and material as specified in the course outlines, while Dr. Mundel undertook the procurement of staff for conducting the courses, while the staff of Rock Island Arsenal undertook a rapid modification of the rooms in Building 90 to temporarily convert them into suitable class rooms while permanent quarters were being processed for them in a building containing the cafeteria.

Early courses involved many expedients. The assistant manager of the Plumb Tool Co. of St. Louis, Mr. Jack R. Bascom, and the chief planner of the local plant of International Harvester, Mr. B. R. Youngquist, through the courtesy of their respective superiors, were loaned to Ordnance as temporary instructors, until the men selected for permanent staff could be released from the industries where they were employed.

Since its inception, the school has patterned its activity on the premise that the best answers to Ordnance problems will come from Ordnance employees. Consequently, instead of attempting to teach specific solutions to specific problems, the staff has concentrated on presenting, in each of the courses, a variety of methods of solving different types of problems and a wide variety of information useful in creating specific solutions to these problems. Courses are not conducted on a routine academic basis but in accord with "participational education."

During the past year, under the leadership of Mr. Moquin, advanced seminars in each of the basic and control courses have been instituted and give fresh impetus to men who received their initial training in the program.

In the Ordnance Management Engineering Training Program (OMETP) books are very much in evidence. If text material is available in the subject matter area, it is first read by the trainees. Then, as a group, they discuss it under the guidance of a conference leader on the staff of the OMETP, and help each other clarify the concepts involved. Then, using the facilities of the Rock Island Arsenal as a laboratory, they attempt to apply the material previously discussed to an actual working problem.

Subsequently, they return to the conference room and clarify any concepts they found giving them difficulty. They may follow this with formal reports and presentations of their findings to their conference group. The oral reports are recorded on sound tapes and the written reports projected with equipment available at the school. The conference group will critique both the oral and written presentations so that in addition to the basic subjects being considered, the enrollees of the program receive training in the skills related to their activity. In all cases, the enrollees are also exposed to information relating to the all-important human aspects of management, of ways of adequately considering the human factor of their work.

In the upper level of courses, frequent guests from industry spend a day as discussion leaders, thus making the personal experience of these top flight men from industry (not elsewhere obtainable) available to the group. A large amount of discussion accompanies such presentations and a good deal of give and take makes the meetings profitable for both student and guest.

The enrollees usually return to their home installation after taking one course. They are trained to perform a management function, to give training to lower echelons in the functions so as to permit either a broader basis of performance or at least participation in management improvement. They are also trained to coordinate their specialties with other aspects of management.

Results are taking three forms. First, successful local training courses in each of the vital management areas are being initiated and carried on by trainees in installations all over the country broadening the basis of management in these installations.

Second, major projects are being undertaken by former trainees. A project concerning a correspondence manual is almost completed and should result in at least a million dollar saving. Also, the group of trainees from one eastern Arsenal informally reported that in the month subsequent to their return from training, using the techniques learned at the OMETP, they made recommendations which they estimated would save $500,000 a year and had already installed enough of these to produce a $50,000 a year saving. Other groups reported similar results of different magnitude ranging down to $20,000 per year. One group reports that they are working on one project which should save 300 personnel spaces.

Third, a whole host of small changes are taking place in such things as planning methods, in organization, etc., which, step by step, should bring the management Corps to a superlative degree of development. As time goes on, it is hoped that reports of savings will begin to disappear or reduce in size. Savings, after all, are corrections. It is hoped that, more and more, management will find the best solution to a problem the first time, and that the techniques taught will be used, not to correct defects, but to avoid them. Only when management reaches this less spectacular condition, will it be approaching a truly desirable condition.

With the OMETP staff spending almost half their time in the field attempting to determine the areas of management problems and the other half of the time leading enrollees in the program in a participational effort to equip the enrollees with the ways and means of meeting their problems, a broad base of management improvement effort is being created. This program should enable Ordnance to better fulfill its function and yet reduce the strain on the American economy.

**WORK**

**Of all the working people in offices and factories, just 15% give more than is required to do their jobs; 25% work less than the minimum standard; and 60% do barely enough to get by.**

**STARTLING**

**Startling headline on local industry story in Naperville (Ill.) newspaper: "Kroehler Davenport Beds Play Important Role in City's Growth."**

## MANAGEMENT SELF-EVALUATION

This month we continue the series in a "Guide for the Self-Evaluation of Management" which began in the February issue of Armed Forces Management.

G. *Work Load Control.*

1. Have steps been taken to analyze work load, trend of work load, whether or not backlogs exist, and scheduling of work to eliminate backlogs?

2. Is work load data used to determine staffing needs as reflected in budget estimates?

3. Are tests made of the flow of work to determine need for procedural changes?

4. At what points in the flow of work are tests made?

5. How is the flow of work divided?

6. Can work load be regulated?

7. Do peaks and valleys exist in work load?

8. Is production planned to provide for peak load?

9. Have possibilities for standardizing work steps been determined?

10. What activities take the most time?

11. How much time is spent on each function?

12. How much time is spent on each step of the work flow?

13. What is the contribution of each employee?

14. Is there any misdirected effort—too much time on relatively unimportant activities or unnecessary work?

15. Has the "make ready" time been analyzed for each function?

16. How does the "make ready" time compare with the actual "doing" time?

17. Is there definite control to assure that the oldest and/or most important work gets priority handling?

H. *Work Simplification or Methods Improvement.*

1. Is the work simplification or methods improvement program integrated with the beneficial suggestion program?

2. Have all supervisors been trained in work simplification or methods improvement techniques?

3. Have all operations of the activity been analyzed?

4. Have work items and steps been identified?

5. What system is used for recommending improvements to superiors?

6. How many improvements have resulted from the work simplification or methods improvement program?

7. Has work simplification or methods improvement training been extended to non-supervisory employees?

8. Has the flow of work been investigated? It is Serial (assembly line), Parallel (concurrent handling), or Unit Assembly (simultaneous handling)?

9. Is the flow of work being handled in the most efficient way?

I. *Beneficial Suggestion Program.*

1. How many suggestions have been submitted during the past year?

2. How many were processed?

3. How many were adopted? Rejected?

4. Have all adopted suggestions been placed in effect?

5. With what methods and how frequently are the actual results compared with expected results of adopted suggestions?

6. Are suggestions processed promptly?

7. How many are over 30 days old?

8. Are unavoidable delays explained to suggestors?

9. How are the results of the program determined?

10. What system is used to bring good ideas to the attention of other organizational units?

J. *Reports.*

1. What methods are used to assure effective administration of reporting systems?

2. When and how frequently are management reports received?

3. Is the conference technique used as one method of reporting?

4. Are consolidated reports provided for staff and operating officials?

5. Are accounting records, work measurement reports, station and operating cost reports used for planning and management purposes?

6. How long has it been since a study was made of every report required by management?

7. Were any reports discontinued?

8. Would further delegation of authority eliminate any reports?

9. What reports are made within the organization? For what purpose?

10. What reports are received by the organization? For what purpose?

K. *Records*

1. What plan is employed in disposal of old records?

2. Does the disposal program conform to prescribed records disposal schedules?

3. What is the percentage of available floor space compared to floor space devoted to storage of records?

4. Are any records maintained in duplicate?

L. *Forms Control.*

1. What plan is employed in review and control of forms for the purpose of simplification, discontinuance, or consolidation?

2. Is the design pattern of forms standardized?

3. Is maximum use of form letters made?

4. Are forms design and control manuals used?

5. Are any forms used in lieu of standard forms? If so, why?

ARMED FORCES MANAGEMENT ASSOCIATION

# NEWS and ACTIVITIES

## Headquarters Activities

At a meeting of the Board of Directors of AFMA held 9 February, the Publications Committee Chairman informed the Board that a complete report of the Committee's recommendations for a Journal would be presented at the next Board meeting 2 March 1955;

The Membership Committee reported a membership of approximately 1250;

A tentative date was established for the Annual Meeting of the Association which will be held in Washington; and arrangements were made to introduce each member of the Board to all members of the Association by an article, with picture, carried in the ARMED FORCES MANAGEMENT MAGAZINE. Mr. Edmund Dwyer is carried in this issue due to the timeliness of his article.

## Individual Chapter News

*AFMA Editor's Note:* As the News and Activities script is forwarded to the magazine on the first of the month for the following month, e.g., March 1st for the April issue, will the field chapters please forward as early as possible their local Newsletters and field news to M. M. Mulford, Comptroller Division, TAGO, Department of the Army. Pentagon, 25, D.C.

### *WRIGHT BROTHERS CHAPTER, DAYTON, OHIO*

The Wright Brothers Chapter has developed a very active organization. An article on the Armed Forces Management Association, including a membership blank, was carried in CONTACT, the monthly publication of the USAF Institute of Technology (The Air University). This plus a strong cognizance of the progressive development of military management, and an eager effort to promote it, has lifted the Chapter membership to approximately 170, with a goal of 350. The Chapter is now issuing a local Newsletter, and is preparing a plan to create an annual management award for an outstanding management individual in the Dayton area. The Chapter held its February meeting on the 15th at Wright-Patterson Air Force Base. General E. W. Rawlings was scheduled to speak on the subject of "Developing Management Capacity." In the absence of General Rawlings, Major General Burnsides delivered the address to an assembled group of 125. On 15 March Brigadier General Beishline, author of "Military Management for National Defense" will speak on the subject "Military Management."

### *SOURDOUGH CHAPTER, ALASKA*

Capt. Frederickson, Membership Secretary for the AFMA on a field trip to Alaska visited the Sourdough Chapter. He indicated that this Chapter is particularly active, having five divisions, with 100 per cent participation.

### *ABERDEEN PROVING GROUND CHAPTER, MD.*

The Charter meeting of this Chapter was held on 14 February 1955. In the emergency absence of Weldon T. Ellis, Jr., President of AFMA, Lt. Col. Howard H. Cloud, Jr., Air Force, Chairman of the Membership Committee, AFMA presented the Charter to Major General Jonathan L. Holman. General Holman, who is most enthusiastic about the Association, gave a brief address describing management requirements and management activities, and pledged the support of Aberdeen Proving Ground to the National organization of AFMA. Capt. H. Frederickson, Membership Secretary of AFMA talked briefly on the growth of the Association and its potential membership. 14 March 1955 was selected as the date of the next meeting.

**Lt. Col. Howard H. Cloud, Jr., left, presents AFMA charter to Major General Jonathon L. Holman of Aberdeen Proving Ground Chapter.**

## Hoover Commission Releases Report

On 21 February, 1955, the Task Force on Paperwork Management of the Commission on Organization of the Executive Branch of the Government, better known as the Hoover Commission, released the first part of its report on the cost of paperwork in the federal government. They found the cost to be about 4 billion dollars per year. Mr. Edmund Dwyer, a member of that Task Force, has long been concerned about paperwork costs, and has played a leading role in the attempt to reduce and control this cost. Recently Mr. Dwyer talked to the annual meeting of the Systems and Procedures Association in New York, and to a meeting of the St. Louis chapter of the National Office Management Association about what the Navy Department is doing to change its paperwork into working paper. The article on the following pages contains the essence of Mr. Dwyer's presentation.

### OFFICER MATERIAL

**A small boy, leading a donkey, passed a naval base. A couple of sailors wanted to have some fun with the boy.**

**"Why are you holding on to your brother so tightly, sonny?" said one of them.**

**"So he won't join the Navy," the youngster replied without blinking an eye.**

# PAPER WORK MANAGEMENT IN THE NAVY

**by Edmund D. Dwyer**

We have all heard people refer to the "flood" of paperwork in government and industry. This may not be a bad analogy. Water is useful and necessary in our daily lives. Paperwork is also both useful and necessary. But, as people along the banks of our major rivers well know, the water in our rivers can get out of hand, and then it becomes damaging, costly, and wasteful. Paperwork, too, can get out of control—it too is then costly and wasteful, and instead of serving as well becomes a growing, fearful, wasteful monster. We cannot completely eliminate water; neither can we completely eliminate paperwork, but we can properly manage both. We manage the water supply at its source, during the course of its flow and use, and at its outlet. In much the same way we must manage paperwork at the source, during the course of its flow and use, and after it has served its purpose. We must establish methods for continual management of water and for continual management of paperwork – stopgap methods in either case are usually too little, too late, and too costly.

Since we are talking about Paperwork Management in the Navy, let us make sure that we understand what I mean when I speak of paperwork. Usually when we hear the word "paperwork," we think of typists, stenographers, secretaries, and clerks of various kinds. There are, however, other processes which are primarily record or paperwork functions, and which represent important effort as well as a major cost or overhead to any organization. These functions involve statisticians, accountants, supervisors of all kinds, technicians, personnel specialists, administrative personnel, and supply clerks. In fact, paperwork involves and affects to some degree almost everyone in every organization at whatever level.

We have all heard that office, clerical, or paperwork costs are high and are still climbing at a rapid rate. This is not peculiar to any segment or part of our society. It applies to industry and to government, to schools, hospitals, local, state and national groups. The Navy's total estimated paperwork cost is about $375,000,000 per year. Here it might be well to pause and point out something that is so obvious that it is frequently overlooked. Paperwork is not all waste. It is not all stupid red tape. Minimum records must be kept because good records contribute to the success of an organization . . . we could not operate successfully without them. If there is any doubt about this, we might try closing down our mail rooms for a few days and see what happens throughout our organizations.

**Introducing Edmund D. Dwyer, member of the Board of Directors. Mr. Dwyer is currently Director of the Office Methods Division, Administrative Office, Navy Department. Born in Rochester, New York, his well-rounded education—Engineering at Syracuse University, two years of Arts at St. Bonaventure College and an LLB Degree from Georgetown University Law School, is a natural lead to a well-rounded professional and social life. In addition to our own organization, he is as active as his busy life allows in the American Management Association, District of Columbia Bar Association, Touchdown Club of Washington, Gamma Eta Gamma Law Fraternity, and Alpha Sigma Phi.**

**He served in the Navy aboard the USS South Dakota and the Aircraft tender USS Curtiss and on the staff of ComSerPac.**

**Mr. Dwyer is an authority on the topic he has chosen, "Paperwork Management in the Navy", as his government service has been very closely associated with paperwork processes—one year as Management Consultant with the Surgeon General of the Army, and six years with the Navy Department in the Office Methods Division. During this period he assisted the State of Michigan on a Government-wide survey to improve paperwork in the State of Michigan agencies and is a member of the Task Force on Paperwork Management, Commission on Organization of the Executive Branch of the Government.**

But how can we evaluate or measure the value of this paperwork? Although it may be difficult to decide if a particular record or operation is essential, this decision is constantly made and must be made. It can be made more or less logically, consciously or scientifically. The analysis and evaluation of paperwork can be accomplished in three general ways. We can survey or analyze paperwork procedures when problems arise or complaints or other signals indicate difficulties; we can analyze our general areas of paperwork and install continuing, proven techniques for controlling and reducing these costs continually; or we can use a combination of these methods. In Navy we use a combination. We make special studies by function or organization, e.g., we may study all personnel forms or all inspection reporting. We have periodic "crash" programs to examine the need for all reports in a given organization. We also use continuing techniques, because when we survey paperwork operations on a project basis we can effectively cut down existing overhead, but unless we establish continuing controls, we will be solving problems but not preventing them. And in paperwork as in other areas, an ounce of prevention is worth a pound of cure.

The Navy has attempted to use those continuing controls and techniques of paperwork management which will be effective from the creation of records or papers, through the maintenance and use of these records, to their final disposition. In order to be most effective, we have concentrated our efforts on those areas which are large and costly, which have proved upon general analysis to be susceptible to improvement, and which are common to all segments of the Navy organization. These are reports and forms, mail, file and record systems, directives and other types of instructional communications, correspondence, records disposal, and office machines and

other equipment. Let's review how and why Navy instituted certain of its administrative techniques to manage its paperwork, how these techniques work, and how they cut down paperwork costs.

### Records Disposal

In 1941 a management consultant firm making a management survey of the Navy Department found that almost one-third of the floor space in the Main Navy building was occupied by file cabinets. They further found that a high percentage of these records were either never referred to or were needed only a few times each year. Yet here was valuable office space being occupied by file cabinets that could just as well be housed in warehouse type space at a fraction of the cost. When this fact was pointed out to top management in Navy, the records that were relatively inactive were removed to a warehouse, and controls were established to insure that from that time on, all records would be scheduled for retirement and be removed to a warehouse-type record center when the reference rate dropped to once a month per cabinet, or the records would be destroyed on the date scheduled for destruction. Today Navy has one-third of its records in record centers. Each year we destroy, through the application of these records retirement schedules, 200,000 file drawers of records. The filing equipment also to house these 200,000 file drawers would cost over 1½ million dollars at a government discount.

### Forms Management

In 1942 this same firm found that Navy was spending several millions of dollars for printing forms and 70 to 80 million dollars to fill in and review these forms. A test group of forms was revised by the Management firm and presented to top Navy management together with the total forms cost. With these facts, continuing controls were established through a forms management program. Today we have about 100,000 different forms in Navy. Last year, however, through the forms management program we eliminated 21,000 different forms. Unfortunately, because of new functions and additional responsibilities, we added many new forms, so that this figure can't be considered a net decrease.

### Correspondence Management

In 1943, a survey revealed that the cost of preparing similar types of correspondence in certain parts of the Navy was significantly greater than in other organizations in the same agency. A system resulting in visibly indexed pattern paragraphs, pattern sentences, form letters, and policy criteria for preparing replies was developed. Through this system we reduced in each place it was installed, the cost of each letter by 40% to 50%.

### Reports Management

In 1947 when the Navy had reduced its civilian and military personnel to less than ⅓ of the World War II strength, the commanding officers of the field activities expressed their concern that reports required by top management did not decrease significantly, and they were hard-pressed for manpower to prepare them. A survey was made, and it became evident that controls should be established over reporting requirements. The clerical costs to prepare and review each report had to be determined, and a decision was made on its need after it was weighed against the cost. A control over reports has been in effect in Navy for six years. Last year 2,362 reports were cancelled, 171 proposed reports were disapproved, and 1,427 reports were revised to reduce the cost of the internal and external reporting.

### Office Equipment

Again in 1947 we found that we were spending several million dollars a year for the rental of electric accounting machines with a significant amount of idle machines for long periods of time. We also found some clerical work had been converted to machines that was costing more than it formerly did manually. Likewise, there were numerous manual operations that appeared to be suitable for machines. An office equipment program was instituted and significant dividends have been forthcoming. The use and potential of Electronic Computers will necessitate substantial changes in this effort during the next few years.

### Directive Systems

In 1949 we discovered that we had over 250 different systems providing instructional information to our field activities. The cost of the time and effort of our people searching for all the instructions on any given subject was estimated to be extremely high, so top management immediately directed the development of a single, standard system for Navy instructions and directives. This system has been in effect for almost three years, and has saved time, effort and material.

### Quality Control

A few years ago we discovered that three large corporations were having considerable success in reducing clerical costs by applying quality control techniques to paperwork operations. After considerable consultation with these companies we returned to the Navy and tested "quality control" in several large clerical areas with phenomenal success. I expect that eventually it will be applied to all major clerical areas in Navy.

We can't eliminate paperwork costs, but we can reduce and hold them at the essential minimum. First, we must determine the costs and locate the areas of greatest cost. Then we evaluate and appraise them in terms of their contribution to desirable or necessary ends. We compare them with like operations within the organization and with like operations in other organizations to spot the areas for potential improvement. We further analyze these areas and install proven techniques for improving and controlling the costs on a continuing basis. Let's not forget that uncontrolled paperwork is the shortest and most direct route to bankruptcy for industry and to higher and higher taxes for running the Government. We really have no choice in the matter—the costs must be reduced—in Navy to help insure the maximum accomplishment of set missions at least expense to the taxpayer—in industry to keep the overhead from swallowing the profits.

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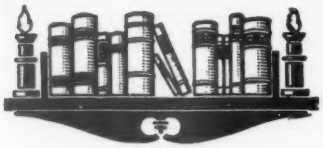
● **HENRY CABOT LODGE, JR.** U. S. Ambassador to UN: "Our country, with 6% of the world's population, is facing a determined coalition of 40% of the world's people. Any country in that situation needs allies."



**Book Reviews . . .**

**"Wise Up Or Blow Up"**

"ATOMS FOR PEACE," by David O. Woodbury (Dodd, Mead, 259 pages, $3.50).

The greatest force the world has ever known is found in atomic power and energy. This force presents two alternatives—annihilation or a new way of life.

Did You Know?

The energy of the atom has been stored from the beginning of time.

One pound of uranium will produce more than 2½ million times as much heat energy as one pound of coal.

The diesel engine needed sixty years to develop from a theory to the railroad. The atomic bomb was developed in three years.

If an atom were imagined to be as large as an auditorium, the nucleus in comparison would be about the size of a pea suspended in the middle of the room.

The "Nautilus" could travel around the world without surfacing, and then the fuel can be replenished at a special dock. The vital components of the unit, such as pumps and valves, can never be serviced due to the sealed lead shield.

Ten years may see atomic airplanes in the sky, the next logical procedure because of a plane's short fuel range. "Atom-auto" predictions are fantastic.

It is possible to detect one billionth of a billioneth of a gram of some isotopes.

Every hour about 100,000 particles from cosmic rays and earth sources pass through the human body.

The metabolism of cows is being traced by radiocarbon. Radioactive digitalis shows how this medicine affects the heart muscle.

The atom is the rebirth of all sciences.

**Recommended Reading**

"THE CAPTAIN'S TABLE," by Richard Gordon (Harcourt, Brace $3.00).

# SERVICE SCHOOLS

**University of Southern California.** The first class of professionally trained Naval Aviation safety officers, completed an intensive eight-weeks' course last month and have returned to their respective stations. These 15 officers will bring the latest techniques and information on accident prevention into play at supervisory levels in the chain of command.

**Fort Sill,** Oklahoma. During 1954 more than 8000 officers and enlisted men attended over 180 classes in 27 different courses. The Artillery School in addition conducted 5 classes in Korean for ROK artillery officers, and graduated many foreign students from regular courses.

**Edwards Air Force Base,** Edwards, California 25 Air Force and civilian personnel were recently graduated from another Introduction to Management class at Edwards Air Force Base. The 10-week course has gained in popularity and the envy of other organizations.

**Army War College,** Carlisle Barracks, Pennsylvania. Major General Paul D. Adams, formerly a member of the Army War College faculty and presently Deputy Assistant Chief of Staff, G-3, Department of the Army, addressed students recently on "Problems and Responsibilities of the Army's Plans and Operations Division."

**Fort Sheridan,** Illinois. A 38-hour Fifth Army TC Motor Pool Management Course was recently completed by 33 officers, enlisted men and civilians from 26 installations in the Fifth Army Area. Similar courses are being conducted by each Army Area by direction of the Department of the Army.

**Illinois Institute of Technology** (Armour Research Foundation). The first nuclear reactor specifically for industrial research will be constructed this year after approval by the Atomic Energy Commission. North American Aviation, Downey, California, has been awarded the contract to build the reactor, or "atomic pile." Construction began late last month and is scheduled for completion by the end of the year.

**Cornell University,** Ithaca, New York. The second annual Cornell University Industrial Engineering Seminar will be sponsored by the Cornell Department of Industrial and Engineering administration, Sibley School of Mechanical Engineering from June 14 through June 17. A series of seminar workshops will cover the six areas of Industrial Management, Manufacturing Engineering, Industrial Marketing, Small Plant Management, Work Measurement, and Applied Industrial Statistics.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# NEWS BRIEFS from the SERVICES

**Ordnance Training Command,** Aberdeen Proving Ground, Maryland. Twenty-seven officers and civilians from eight Ordnance activities recently attended a three-day Ordnance Training Command Management conference. The conference, the first of several scheduled, was called to discuss various management, budget and planning functions applicable to activities of the command.

**Fort Campbell,** Kentucky. Exercise "FOLLOW ME," a field exercise designed to test new concepts of organization, training methods, logistical support and battle doctrine to meet the challenge of warfare in an atomic age, began recently with a simulated nuclear explosion. The Air Force added realism to the exercise with a series of air strikes designed to study force reaction.

**Army War College,** Carlisle Barracks, Pennsylvania. General John E. Dahlquist, Commanding General of the newly-formed Continental Army Command, outlined the current mission recently, in an address to students.

**Naval Air Training Command, NAS,** Pensacola, Florida. The story of a remarkable reenlistment rate at the Navy Air Base, Chase Field, in Beeville, Texas, is worthy of retelling. Chase recently turned in a reenlistment rate of 70%, and since being recommissioned on July 1, 1954, has been a popular assignment station. An advanced jet base under the command of Rear Admiral C. D. Glover, Jr., has completed a "facelifting" by the sweat of individual brows. Each man has assumed his share of this load and in close cooperation with the town of Beeville, have made the Base a "going concern." Maybe this is the reenlistment answer.

**Camp Lejeune,** North Carolina. Major General Lewis B. Puller has been assigned as Deputy Commander, Marine Corps Base. Formerly Commanding General of the 2nd Marine Division, and holder of five Navy Crosses, General Puller commanded the 1st Division in Korea prior to his assignment.

**Langley Air Force Base,** Virginia. Major Harry K. Evans, USAF, Commander of the 509th Fighter-Bomber Squadron of the 405th Fighter-Bomber Wing, recently made the longest jet fighter-bomber flight on record without the use of inflight refueling. Piloting a Republic F-84F, Major Evans took off from George Air Force Base, California at 6:39 P.M. (EST) and arrived at Langley at 10:34 P.M. (EST) for an overall flight of 3 hours and 55 minutes, averaging 605 miles an hour.

**Army-Air Force PX Headquarters, New York.** Major General H. L. Peckham, Chief of the Army and Air Force Exchange Service, accompanied by Mr. John J. Ryan, Chief of Technical Information, departed 22 February for a visit with commanders and exchange officers in Alaska, Japan, Korea, Okinawa, Formosa, Philippines, Guam and Hawaii.

**Naval Proving Grounds,** Dahlgren, Virginia. A new "electronic brain," built by IBM, will shortly go into operation for the Bureau of Ordnance at this installation. Complete arithmetic operations are carried out at a rate of 15,000 a second or a billion in less than a 24-hour day. This is equivalent to 1,000 people computing for an entire lifetime.

**Fort Benning,** Georgia. The Army has assumed operational control of Lawson Army Air Field. The changeover officially completes the movement started in September to transfer operational control from the Air Force to the Army.

**Fort Belvoir,** Virginia. The Engineer Research & Development Laboratories are utilizing the engineering "know-how" of more than 100 enlisted men, all graduates of colleges and universities. These soldier-engineers and scientists are working with civilian engineers in an effort to produce the best possible engineer equipment in the world for our Armed Forces.

**Naval Air Station,** Alameda, California. Thirty civil service employees were honored recently in presentation of 20 and 30-year service pins. Captain Louis E. French, USN Commanding Officer, in presenting the awards, paid tribute to the loyal workers by stating, "You have reached a significant milestone in faithful government service." In addition to gold service pins, each employee received letters of commendation from the Navy Department.

**Engineer Research & Development Laboratories,** Fort Belvoir, Virginia. Dr. Richard L. Hall, Director of Research at McCormick and Company, Baltimore, Maryland, recently addressed executives of the laboratory on "multiple management." This lecture opened a series of talks on management topics to be presented as a part of the Executive Development Program.

**Ninth Naval District,** Great Lakes, Illinois. Rear Admiral Emmet P. Forrestel, assumed commands of the District last month from Rear Admiral D. V. Gallery, in colorful ceremonies at Great Lakes Naval Station.

**Tinker Air Force Base,** Oklahoma. Approximately 900 officers and airmen of the 506th SAC Fighter Wing, are being transferred to Tinker AFB from Dow AFB. Colonel Richard O. Hunziker, USAF is the Wing Commander.

**Fort Leonard Wood,** Missouri. Major General Frank O. Bowman, former Engineer for Army Forces in the Far East, has been appointed Commanding General of Fort Leonard Wood and the Sixth Armored Division.

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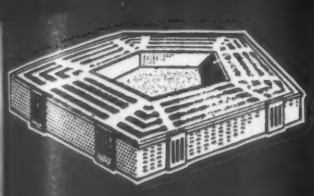
### *Air Climb Record Set*

**● McDonnell Aircraft Corp. has announced that a Navy F3H-1N jet has climbed 10,000 feet in 71 seconds to set an unofficial world record.**

**Piloting the plane on its record flight was McDonnell experimental test pilot Chester V. Braun.**

**The previous record was 73.2 seconds set by a Navy pilot in an F-3 Fury jet.**



# Washington Management

**Department of the Army**—"Operation Team-mate" designed to increase the ratio of combat to support personnel has begun. By replacing 12,000 military personnel with civilian employees during the first six months of 1955, the program will be well on the way. At the end of World War II, 43 out of every 100 soldiers were considered as part of the operational forces as opposed to support forces. This was increased to 52 out of 100 by mid-1953 and is expected to reach 62 out of 100 by this coming June.

**Department of Defense** – The electronics failure report form DD-787 was recently standardized for all services by the Office of the Assistant Secretary of Defense for Applications Engineering. One of the largest single reasons for the standardization by both the services and the electronics industry, is increased electronic reliability.

**Department of Defense**—The Defense Department has announced the locations of the 39 Industrial fund installations.

The 17 Army activities that are using this double entry accounting system are: arsenals at Dover, N. J., Denver, Colo., Pine Bluff, Ark., Watervliet, N. Y., Huntsville, Ala., Philadelphia, Penna., Rock Island, Ill., Watertown, Mass.; Q.M. Depots at Philadelphia, Penna., Jeffersonville, Ind., Ogden, Utah, Fort Worth, Texas, Richmond, Virginia; Printing Service, St. Louis, Mo.; Dugway Proving Ground, Tooele, Utah; Diamond Ordnance Fuze, Washington, D. C.

The Navy has the following 21 commercial-type functions that have installed industrial funding: Defense Printing Service, Washington, D. C.; Military Sea Transport Service, Washington, D. C., Naval Ordnance Plant, York, Penna., Navy Printing Service (23 plants), Naval Research Laboratory, Washington, D. C., Naval Ordnance Plant, Forest Park, Ill., Marine Clothing Factory, Philadelphia, Penna., U. S. Naval Ordnance Laboratory, Corona, Calif., U. S. Naval Powder Factory, Indian Head, Md., and Naval Shipyards at Philadelphia, Penna., Portsmouth, Va., Charleston, S. C., Boston, Mass., Portsmouth, N. H., Brooklyn, N. Y., Bremerton, Washington, Long Beach, Calif., San Francisco, Calif., Vallejo, Calif., and Pearl Harbor, T. H.

**Department of the Navy**—(Buaer)—Two contracts for a new prototype one-man, portable helicopter which is easily assembled, lightweight and collapsible have been announced. The successful designs were submitted by the Gyrodyne Company of New York and the Hiller Helicopter Company of California. The helicopters are designed for the Marine Corps, for observation, liaison, escape and evasion, and small tactical maneuvers.

**Department of the Navy (HQ United States Marine Corps)**—Brig. Gen. Raymond A. Anderson, USMC, has been named the new Quartermaster General, replacing Major General William P. T. Hill, USMC, has held the post since early 1944. A former Marine pilot, General Hill requested retirement after 38 years service.

**Department of Defense**—A new procedure for coordinating the forwarding of officer promotions to the White House for the President's approval has been established. All of the services will now send their list to an appointee on the Department of Defense level, who will pass them on to the White House.

**Department of the Navy**—Rear Admiral Bartholomew W. Hogan, MC, USN, has been nominated by President Eisenhower to be the new Navy Surgeon General and Chief of the Bureau of Medicine and Surgery.

**Department of the Army**—President Eisenhower has nominated The Honorable Charles C. Finucane to be the Under Secretary of the Army. During World War II he served in the Navy and rose to the rank of commander. Upon discharge from the Navy in 1946 he returned to business in Spokane, Washington and in 1949 became President of the Sweeney Investment Company of that city. Since last August he has served as Assistant Secretary of the Army.

**Department of the Air Force.** The Air Force has taken the wraps off the ATLAS, an intercontinental guided missile capable of striking trans-oceanic targets from bases in this country within a matter of minutes. The rocket-powered missile is reported to have a 5000-mile range and attain speeds of 10,000 miles per hour. The ATLAS is being manufactured by the Convair Division of the General Dynamics Corporation.

**Department of the Navy.** Rear Admiral James S. Russell, USN has been sworn in as Chief of the Bureau of Aeronautics. Prior to this assignment, Admiral Russell was Commander, Carrier Division Five, which operated during the recent evacuation of the Tachen Islands.

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# What's NEW in Suggestions?

**Reese Air Force Base,** Lubbock, Texas. Civilian employees at Reese AFB led all 23 Flying Training Air Force bases in participation in the Civilian Suggestion Program, aimed at bringing savings and better management to installations, for five months of 1954. Major General G. P. Disoway, USAF, FTAF commander, advised that Reese had achieved the highest increase in participation during the period July 1 to November 30, 1954.

**Badger Ordnance Depot,** Baraboo, Wisconsin. Mr. Walter Dahl, Ordnance Inspection Division employee, recently received one of the largest civilian awards ever won by a Badger employee for his suggestion which eliminated the need for reworking supposed faulty rocket propellants. Mr. Dahl who was awarded $250 for his research, is credited with saving the government $48,400. Mr. Carle Forster, a former employee who assisted or participated in the study and tests was awarded an additional $250.

**Fort Dix, New Jersey.** 1st Lt. William Thompson of the 272d Infantry, made a suggestion that not only simplified range card orientation, but has cut the time needed for instruction by almost 30 minutes.

**USNS General William Weigel (MSTS).** The Military CO and the Chief Steward came up with a novel incentive award for troops. The troop compartment attaining the highest competitive grade at inspection is awarded a coffee hour that evening.

### DRINK—DRINK

**Army headquarters in Europe have released the fact that $5,600,000 in profits from the selling of liquor to American troops in Europe have been deposited in the armed forces welfare fund.**

**Army-Air Force Exchange Service,** New York. Major General H. L. Peckham, Chief, A&AFES, presented checks for $50 each to Miss Eggers and Mrs. Azzaro both of the Purchasing Branch, for a joint suggestion. During the brief ceremony, General Peckham urged all employees to "put on their thinking caps" and use the suggestion boxes as a way to increased riches.

**Strategic Air Command,** Omaha, Nebraska. Hard cash for accepted suggestions will be paid to Strategic Air Command military personnel beginning April 1, according to an announcement this week by SAC management officials.

A new SAC regulation adds the cash awards to previous command programs containing such incentives as three-day passes, letters of appreciation and commendation, and the awards of commendation ribbons. Funds for the new program will come from non-appropriated fund sources.

The management improvement suggestion program for years has earned monetary dividends for civilian employees of the armed services.

Provisions for an annual incentive award contest for SAC bases are also in the regulation. A $1,000 cash award will be made to the central base welfare fund of the base judged best in management suggestions by SAC officials.

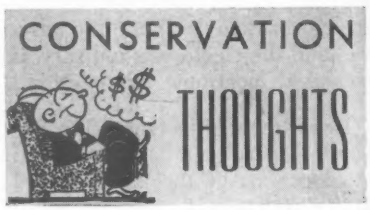
Suggestions will be processed at base, numbered air force and finally by SAC headquarters awards committees. Ideas receiving favorable consideration at SAC headquarters will be implemented command-wide as rapidly as possible.

A limit of $25 per suggestion has been established at base level. The headquarters SAC committee may recommend a limit of $100 for each suggestion.

**Savanna Ordnance Depot,** Savanna, Illinois. A check for $200 and the Department of the Army Award Certificate was recently presented to Mr. Jess C. Stoddard, for his suggestion modifying present baskets for 8th clips at CL chemical cleaning line. The suggestion increases production by one-half.

**Naval Air Station,** Alameda, California. Savings to the government in the amount of $29,358 yearly by the O & R Division in the first three months of 1955, has been reported. Through the use of the "bene suggs" program the individuals submitting these suggestions have benefited by increasing their earnings to the tune of $907.95. The top award of $275 went to Mr. William Fazzino for a suggestion on repairing bulkhead leaks in life rafts.

**Presidio of San Francisco,** California. The Quartermaster General, Department of the Army, recently forwarded to Captain C. D. Woodell, Post Food Advisor, Department of the Army Suggestion Award Certificate, for his suggestion that DD Form 407, "cook's work sheet" be printed on both sides, which resulted in annual savings of $1,461.60.




**United States Post Office.** Postmaster General Summerfield who has been leading the Post Office Department through its most drastic management shakeup since it was founded in 1775, recently reported that improved management operations saved $29,800,000 during fiscal year 1954.

**Northern Air Material Area,** Burtonwood, England. During the past year the time required to process a requisition and ship items from the depot has been reduced from 12 to seven days. "Shortenin' Bread" was the name of the project, handled by Major Clement J. Lenhoff and George Jones, UK chief of management and procedures.

**Department of the Navy.** A new process of applying chromium plating to the walls of engine cylinders has saved the Navy more than $15 million. Service life is extended from 1,200 hours to more than 3,000 hours of operation. Inventory re-

quirements for new cylinder assembly spares has been reduced, and the total number of engines required to support the Navy's engine program has been cut.

**Lockheed Aircraft Corporation.** Conservation in manpower was announced recently when it was reported that one-third fewer man-hours per Super Constellation; 10 percent fewer man-hours per T-33 jet trainer; better-than-estimated man-hours in B-47 manufacture at Georgia; best pounds-per-employee record at California since the start of the Korean war, had been accomplished.

**Naval Air Station,** Alameda, California. Mrs. F. G. McDonald from the Public Works Department, wrote a clever conservation jingle, reproduced here for its merit:

First of the month you always holler
When you have to pay out that hard-earned dollar
For rent and food and utilities,
And maybe a few little luxuries.

Here on the Station we have the same trouble
Only for us the trouble is double.
$60,000 a month is what we pay
And it all comes out of Allotment "A."

Now Allotment "A" is your source of funds
And when that's gone, brother, you're done!
But there's one way we can lick this thing
So come on, gang, let's get in swing!

When the lights are burning and there's no one around
Get out of your seat and push that switch down.
Same way with water, don't let it drip
Or some day you'll get that well known "PINK SLIP!"

Conserve utilities—let that be your theme,
When the windows are open, let's turn off the steam,
To keep all our jobs, let's act as a team,
And save . . . WATER, ELECTRICITY and STEAM!

—Mrs. F. G. McDonald,
Public Works Department

**Langley Air Force Base,** Virginia. The 405th Food Service Squadron reports a new conservation twist in the average monthly saving of $300 by rendering fat. For the first two months of this year a total of 9,578 pounds of rendered fat were issued to units at Langley AFB.

**Camp Stewart,** Georgia. Approximately 35-million board feet of lumber and 33-thousand cords of pulpwood will be harvested at Camp Stewart this year, for an income of $800,000, it is estimated. The sale is to help clear 20,000 acres of the reservation to be used in the Third Army's tank training program. The trees, if harvested before they become damaged by tank maneuvers and shell fire, realize a much higher return.

**Ninth Naval District,** Great Lakes, Illinois. More than $400,000 in savings is reported by the Ninth Naval District during the past fiscal year in the District Conservation Program. Major savings were reported in building and public utility contracts, vehicle maintenance and record disposal. The Ninth Naval District, the largest of all Naval Districts, has established an enviable target in conservation.

**Naval Ordnance Plant,** Forest Park, Illinois. An estimated $50,000 a year is being saved by the Naval Ordnance Plant, by the reclamation of silver from sea-water multiple cell batteries.

**Strategic Air Command,** Omaha, Nebraska. SAC's recently-inaugurated policy of 24 months between change-of-station transfers of its personnel has helped bring about almost half a million dollars' savings in travel funds for the current fiscal year. In what amounts to turning back to Headquarters USAF $446,185 of the targeted permanent-change-of-station budget, SAC reduced its fiscal year 1955 allowance by more than 10 percent.

**Hawthorne,** California (Northrop Aircraft, Inc.). A reader of Armed Forces Management sent us this announcement and suggested we use it in this section under the heading of "Conservation of Noise." We believe the writer is serious and here's the reason—"Silent Sam" is a nickname for an ingenious electro-mechanical system that takes most of the "squeal" out of the Scorpion F-89D all-weather interceptors. There it is J. D. and we hope that you, Mrs. J. D. and Junior, will pass on your "thanks" to Northrop's engineers. (Editor)

**Navpur,** San Francisco, California. Recent experiments with photo-copying have proven a money saver to this installation. A rented machine which photo-copies any letter, requisition, document, form, etc., showed a saving of 96 man-hours in a month.

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**Management Preparedness**

(*Continued from page* 5)

taining huge reserve stocks in storage.

We are most reluctant to build up large quantities of reserve stocks because these cost a great deal of money to store, and maintain in storage, and are always subject to obsolescence.

Due to the uncertain timetable of enemy aggression and the possibility that aggressive action might

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not take place for a number of years, if ever, we want to avoid having our money and material resources tied up in equipment, by then so obsolete as to have become "just so much iron."

In maintaining an effective production base, we prefer to keep as many producers in operation at an "idling speed" as possible, providing the workload does not fall below what is considered economical production. Acceleration of production is much faster and more efficient from an "idling speed" than from a standing start. By reducing the time needed to get into full operation, we are able to proportionately reduce the size of the stocks of end-items that must be kept in reserve for emergency use and for tiding us over until new production is available.

Where an economical production rate cannot be sustained, the next best alternative open to us is the preservation of production lines in place, that is, in standby. Where that is not practical or possible, then we strive to accomplish a systematic layaway or storage of the necessary production equipment as a unit where it will be readily available and can be put back into operation in the shortest possible time.

In any future conflict, it is generally considered that time will be a more important factor than ever before. The potential capabilities of an enemy force to deliver devastating blows on our industrial and communications centers has been multiplied many times in recent years due to the tremendous advancements in weapons and transportation. In order that we might quickly respond to the need, whatever it is and whenever it arises, we must reduce the time for going into action to the smallest possible fraction.

Preparation time allowed us in other wars is apt to seem almost leisurely by comparison. No longer can we count upon a relatively comfortable margin of time in which to shop around and make the best buys, to negotiate contracts, to rehabilitate standby plants, to assemble the necessary tools and equipment, and time to recruit and train the necessary working personnel. We must accomplish these things in advance insofar as it is possible and have the wheels ready to roll when the flag is dropped. That is the true meaning of "preparedness" when we speak of industrial preparation.

In our efforts to establish and maintain real standby capacity to produce on short notice, we have made encouraging progress during the past year. As work orders and contracts have been completed, and equipment and facilities have become idle, we have negotiated numerous standby-layaway contracts. The cooperation we have received from industry in this regard has been most commendable and most encouraging.

Our arrangements and negotiations have in general, been guided by three fundamental working principles:

(1) It is our desire that all the equipment necessary to produce an essential military item remain under the control of the contractor wherever possible. There are many distinct advantages to contractor control. The most important is that responsibility is thereby pinpointed. If a contractor has used certain equipment, his organization is familiar with it and knows how to take care of it, and *will* take care of it as long as the possibility exists that he may have to use it again.

One of the sad experiences of getting into production after the outbreak in Korea was trying to fit a "derelict" item of equipment from our equipment reserve into a production line in order to complete the line. The capacity of a production line can be no greater than the capacity of its slowest machine and many a production line was kept in low gear because of the poor capability of a few, or maybe only one or two, items of necessary production equipment.

Perhaps the item of equipment in question had low capability because the former using contractor had not taken proper care of it. Or perhaps in that period before Ordnance could get around to preservation, it had been allowed to sit in open storage. Or perhaps in its hasty removal and vagabond journey from here to there, before recovery, it had become damaged and its effectiveness seriously impaired.

Another advantage in contractor control is that we know through negotiation just how much storage and maintenance is going to cost us for a given year. And when the time comes to ask for the necessary funds, we can say definitely what the cost will be, and the merits of each case can be quickly evaluated and readily determined.

Still another important advantage in contractor control is that the possibilities of keeping know-how alive are tremendously increased. The men who are to use this equipment in the future are more apt to be the men who used it before. It is likely that these men will be still employed by the contractor on civilian production or that many of them will still be living in the nearby vicinity where they can be readily reemployed or contacted.

(2) The second working principle followed in making standby-layaway agreements is that contractors must accept the responsibility for such conditions of storage and maintenance as will assure their ability to resume production on short notice. We have tried not

to be too hidebound about specifying conditions of storage and have not insisted—and will not insist—that equipment be made unrecognizable in a ball of grease and paper wrappings if a contractor can give us reasonable assurance the equipment will be kept in a proper state of maintenance so that it will be ready to roll when needed, and if he accepts the responsibility for that kind of maintenance.

(3) A third fundamental principle followed in our standby arrangements is that all contractual arrangements have to be economical in order that the total bill for standby-layaway is well within the practical capacity of the national economy to pay on a continuing basis.

Within the scope of these principles many varieties and many different combinations of arrangements have been possible. In any given instance we may consider arrangements whereby: (1) equipment is left in place, either preserved or under power; (2) equipment removed from its production location but stored in the same building; and (3) equipment removed, preserved, and stored in some other building under the contractor's control.

Let me remind you that our overriding interest today is in maintaining a dynamic production base in a state of effective standby, or at a low cruising speed of operation, with thorough capability of quickly accelerating to maximum production to meet any given combination of circumstances. We know neither the time, nor the quantity, nor the place that military items may be required in the future. However, we must make, we have made, and we are making the most careful plans for fulfilling these indeterminate demands. We cannot afford the easy way of preparing to meet these demands by simply manufacturing and storing vast quantities of military equipment and supplies. There are good economic reasons why we cannot, as I have already said. To produce such stores would be extremely expensive and the cost of maintaining them in storage represents, in itself a great outlay. Beyond that, the inevitable specter of obsolescence would hang over our military assets. Supplies of critical and strategic materials required to produce superior new items might become so depleted as to seriously impair our capability for new production.

To reduce the quantity of reserve stocks that must be kept on hand to the practical minimum, the cornerstone of our plans is the substitution of effective industrial capacity for all except the quantity needed to meet the immediate impact, and subsequent "build-up" period, of any military action.

Not only must we have the capacity and knowledge to produce today's weapons in the required quantity and quality, but we must also prepare to provide tomorrow's weapons with the least possible delay between the drawing board and the battlefield. To this end, promising new items must be engineered for mass production and process-tested through the establishment of pilot lines and placement of educational orders in industry. Other preparedness measures include production engineering and process engineering of standard items to conserve critical materials, improve functioning and reliability, and reduce demands for critical manpower.

Our capability for meeting the demands of any given combination of circumstances requires that we achieve maximum flexibility in our operations. We must be prepared for any eventuality—whether it be for another Korean-type emergency, or for all-out war, or perhaps for a series of "brush fires" on the perimeter of our defense.

This requirement for flexibility puts a premium on *capability* rather than on stocks on hand. We must maintain the highest capability of quickly and effectively producing up-to-date items as may be demanded at any given time.

Rapid advancements in technology place an even higher premium on our capability of making the newest items, or items in which are incorporated the latest improvements, rather than making the oldest items.

Now let us analyze for a moment this problem of capability. Just what degree of capability is possible? Let me remind you that capability is like a chain and our total capability can be no greater than the weakest link in that chain.

We can erect the most imposing top-structure of capable and dependable producers in the country—and we have available in this country the best in the world—but let us not be fooled into believing that sheer ability is an indication of true capability. Due to the wide practice in American industry—and I must add the desirable practice—of farming out much of the production work on small items and various assemblies and components to subcontractors, true capability may easily rest, and often does, on the small producers who form our production sub-structure.

Our true capability can be no stronger than the weakest link in our chain because completion of operable and acceptable equipment depends upon the existence of all of the many necessary and often critical parts which go to make up any given Ordnance item. Any one of these may be comparable to the elusive nail for the want of which


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a king is oft reputed to have lost his kingdom.

Military items present problems somewhat different from those encountered in the manufacture of items for civilian consumption. Because of the conditions of rugged usage in all types of weather, in a wide variety of climates, and over all kinds of terrain, military items generally, and particularly Ordnance items, must meet higher performance standards and must possess dependability to a degree not necessary for items produced for civilian usage. Parts must be of higher quality, of greater strength, and machined to closer tolerances in equipment used by fighting men. We cannot well afford malfunction on the battlefield where the stakes are high and human lives may be jeopardized.

In constantly analyzing true production capability, we therefore must consider the capability of the vast number of small contractors or sub-contractors who are engaged in the manufacture of parts or assemblies which in many cases are quite foreign to anything they have produced before and which require higher and more exacting standards of excellence. We must consider whether they have the ability to turn out the product of required quality, with the required tolerance, meeting the acceptance standards of fit and functioning, and whether they possess the necessary combination of skills.

Industrial Preparedness means the possession of tools and equipment, the know-how, the skills and experience. The existence of these ingredients in good measure is basic to our entire Industrial Preparedness program. These are the things we attempt to preserve in our standby - layaway arrangements. When we preserve production equipment in a single package, where we have produced already, we have gone a long way toward effective preservation of not only plant and facilities, but management, know-how, skills, and experience.

Much of our degree of capability and preparedness depends also on the continued interest of base producers. In the combat vehicle field, for example, we must continually make capability studies in cooperation with the base producer. We must analyze his past experience record, find out what he had to procure and from whom, make an evaluation of the performance record of suppliers or subcontractors, and determine whether that performance was satisfactory. We want most of all to know—"Where were the bottlenecks?"

We want to determine also whether any given source of supply is or may continue to be dependable—and whether there might be other sources which could give a greater guarantee of satisfaction in timely deliveries of the required quality.

Capability is a constantly changing factor. What a contractor may be able to do today, he may not be able to do tomorrow for any one of several reasons. An important one of these is open capacity. New contracts he receives from other sources may at any time tie up essential capacity that we had depended upon. We have to anticipate these eventualities and protect ourselves against them by being prepared with alternate plans. We also have to know when they exist or even when they begin to be a possibility so that an alternate plan can be put into effect.

With the many thousands of producers engaged in Ordnance work and producing some 300 thousand different items, it is obviously impossible to make a complete detailed mathematical analysis of every aspect of our planned production structure in order to determine the weakest links in our capability chain. Such an analysis would require all of the efforts of all our people for a good five-year period—with no time to do anything else. Consequently, we must confine our efforts to "area studies" in general, keep alert to trouble signals with cocked ears and open eyes, and depend heavily upon key employees with imagination, both in Industry and in Ordnance, to call these signals to our attention. The job, in fact, requires a "divining rod" the like of which has never yet been devised.

Maintenance of the mobilization production base also requires the most careful correlation with current procurement of base items. By a base item is meant a critically important military item or component not ordinarily available from commercial manufacturing sources without provision of essential Government-furnished production equipment. This may be an item of long-lead-time in the manufacturing cycle, or either not in production or not in production in sufficient quantities, or items requiring conversion of all or part of an industry, or items for which industry does not have production experience.

In evaluating contract proposals involving base items the following factors are given particular emphasis:

(1) The procurement as awarded must maintain or contribute to the mobilization base;

(2) Government-furnished facilities will not be provided unless necessarv to maintain or expand the mobilization base;

(3) The over-all net cost to the Government;

(4) Producers planned for another service or military department will not ordinarily be awarded contracts for base items unless assurance of mobilization availability can be secured from the responsible service or department;

(5) Producers of other base items will not be awarded contracts for the base item being procured if such award will adversely affect their ability to produce, in the event of emergency, the item for which they are planned producers;

(6) Where the award of the procurement contemplates a change in the mobilization base by substitution of a new producer for a current producer, the advantages to be gained must be great enough to justify the additional expenditures resulting from such changes, the possible loss of lead time in getting into production on the current procurement, and the weakening of the base during the period of change; and

(7) Normally, evaluation of the

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**30,000 in Pentagon**

● **The Pentagon houses a community of 30,000 people with more than three and a half million square feet of office space, more than 17 miles of corridors and roughly 90 thousand miles of telephone cable.**

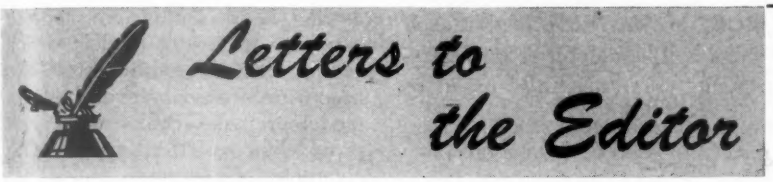
competitive proposals as between established base producers, active or in standby, will include direct assessments of the costs for re-lay-away (to the extent that such costs will represent duplication of lay-away expenses previously incurred) and costs of reactivation.

In addition to our standby-lay-away arrangements, our constant capability studies, and the establishment of basic policies and procedures designed to correlate current procurement of base items with efforts to maintain a dynamic mobilization production base, we have set up a Production Equipment office at our Rock Island Arsenal, Rock Island, Illinois, for keeping a complete inventory of not only all Ordnance machinery and tools but all production equipment controlled by the Army. Here in one central place we will have for ready reference a record of the location, kind, make, age, capacity, and past usage of every single item —whether in actual use or in storage.

Management of the Ordnance mission for industrial preparedness is indeed a job of great magnitude. It requires full use of the latest and most improved management techniques and the most modern business methods. These must be employed in every practical way to achieve skillful coordination, to pinpoint trouble areas, to establish sound cost data, to identify production difficulties before they become "bottle necks", and to generally so manage our affairs that we will be prepared to do whatever is required of us at any given time—in whatever circumstances.

By doing all these things and by persevering in our standby-lay-away efforts in cooperation with American industry, which is giving us such fine support in this endeavor, I am sure that we will be ready.

END




**(EDITOR'S NOTE) At the request of the majority of writers contributing to this column, ARMED FORCES MANAGEMENT will continue the policy of using "initials only" on letters published to allow the writer to remain anonymous.**

Dear Editor:

I am certainly enjoying your book review section and like the idea of an occasional fiction review.

R.L.J.

I should like to send along a word of congratulation on the excellent job you are doing on the Armed Forces Management magazine. We feel that it is filling a definite need in our manpower utilization surveys, and is helping to get more top level support at our installations. Too bad we didn't have something like it three or four years ago. We would be that much further ahead on the program today.

M.T.J.

Dear Editor:

In your February issue you reproduced a letter from D.E.F., who was experiencing difficulty in getting his recommendations recognized. I should like to tell him that management is in addition a selling job. Try to "sell" your superiors on your ideas, backing them up with facts. Be patient, tactful and keep "selling." Rome was not built in a day, and your management training is not wasted. This advice was given me not too long ago, and it has paid off. Maybe it will help you.

J.B.S.

Dear Editor:

I subscribed to your magazine in November and have since become a member of the Armed Forces Management Association and receive a second copy which I have been forwarding to my father. I am writing this to your column because I think others would like to know if this is possible. His address is—Mr. Frank C. Gregory, 1897 Grandview Place, Milwaukee, Wisconsin. My subscription number is 6088.

Sincerely,
A.F.G.

Thank you. We shall be glad to change your address on this subscription so that it will be mailed to your father. *Editor.*

Dear Editor:

I have forwarded a request to our base library to obtain a subscription of five copies monthly of your Armed Forces Management magazine, and firmly feel that each major command should initiate necessary action to obtain a subscription to your magazine for all their installations.

As you may know, each station is being required more and more to purchase various items of equipment and supplies locally until, effective with fiscal year 1958, station commanders will be given one lump sum of cash to procure approximately 95% of all items used at base level. In my capacity as comptroller, I am very much interested in saving manhours, and feel that I will be able to utilize and purchase some of the products advertised based upon manhour savings.

More power to your publication. It is an excellent medium wherein help and exchange of viewpoints can be obtained.

Sincerely,
C.D.V.

Dear Editor:

I have a question that came up in discussion while we were looking over your magazine, and we think others would be interested in knowing if you can answer questions like mine. Do all servicemen have to pay state income taxes?

O.A.B.

Editor: All servicemen are subject to state income tax, in addition to federal income tax, unless individual state statutes provide for members of the Armed Forces; if not, then your service pay is subject to your home state's income tax laws. There are fourteen states that do not have state income tax laws. They are: Connecticut, Florida, Illinois, Maine, Michigan, Nebraska, Nevada, New Jersey, Rhode Island, South Dakota, Texas, Washington, West Virginia, and Wyoming.

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A Products Information Library has been established and descriptive literature, catalogues, and reference material is available to you without cost or obligation. The firms have been carefully selected, have a high standing in their respective line, and deserve consideration. They are **NOT,** in each case, advertisers in ARMED FORCES MANAGEMENT, but each offers you a service or product which we feel will be helpful in your operation. Operating and Purchasing departments are respectfully urged to take advantage of this service.

**How to Use Armed Forces Management's Library—**

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

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**MINNESOTA MINING & MANUFACTURING COMPANY.** A machine described as "the world's fastest completely dry copying machine," was announced on March 1, 1955. Called the "Secretary" brand copying machine, it is small enough to be used on an office desk and measures 17 inches wide by 17 inches long by nine inches high. It operates from any 110-volt AC outlet employing a special light in the machine and a special copying paper without the use of liquids, negative or master copies involved.

*For more facts request No. 1 on reply card*

**BELL AIRCRAFT CORPORATION.** Late last month the Bell Aircraft Corporation showed a prototype of the dream aircraft which takes off vertically like a helicopter, but flies horizontally like a proper airplane. Top speed in horizontal flight is reported to be in excess of 175 m.p.h., and may prove to be the answer to the Army's air requirements.

*For more facts request No. 2 on reply card*

**CENTRAL SAFETY EQUIPMENT COMPANY.** A new fire extinguisher servicing device for removing extinguisher heads safely and quickly, has been introduced by the Central Safety Equipment Company. Named the Extinguisher Servicing Device, the chore of checking and recharging of extinguishers, has been eliminated. By the use of this new device one man in a matter of seconds, can remove a "head," which previously required two or more persons.

*For more facts request No. 3 on reply card*

**D. C. COOPER COMPANY.** Developments have been completed of Cooper's new automatic conveyorized machine for the processing and preserving of bearings, tools and spare parts prior to packaging under military specifications. The new machines are furnished in unheated or electrically heated models, and in two types, automatic agitating type for metal cleaning processes and automatic dipping type for application of rust preventatives.

*For more facts request No. 4 on reply card*

**NEW ERA ENGINEERING COMPANY.** NEECO flame-cutting guides are simple, low-cost attachments that convert hand cutting torches and combination cutting-welding torches into precision cutting instruments. Designed and engineered for easy and exact flame-cutting, Neeco Guides are made in a wide selection of models which can be attached with custom-like fit to your torch—whatever the type, model or make. Bulletin 101 will provide interested personnel with complete information.

*For more facts request No. 5 on reply card*

**BROWN, MADEIRA & COMPANY.** Are you interested in a planned investment in dividend paying securities? This long established organization specializing in mutual investment funds, has counseled thousands of military personnel in the past few years interested in extra retirement income. A booklet entitled "The Modern Way to Invest," will give you a sound approach to a more secure financial future.

*For more facts request No. 6 on reply card*

**CURTISS-WRIGHT CORPORATION.** An ultrasonic device that solves the problem of cleaning and degreasing large and small metal parts, even the most delicate foils and tiniest watch movements, was introduced last week to industry and the Armed Forces. With the Curtiss-Wright unit, the object is immersed in a mild, warm solvent and subjected to intense ultrasonic irradiation.

*For more facts request No. 50 on reply card*

**ARROW FASTENER COMPANY.** The new Arrow T-75 gun tacker has been especially designed for Post and Base Engineers, Supply and Operational personnel. This tacker is made to fasten UF

cable, branch circuit wire, wire conduit, plastic cable, water tubing, low voltage wire and thousands of other uses. The driven staple will not split wood and cannot damage wire or cable.

*For more facts request No. 51 on reply card*

**LEATHER-KLEEN, TANNER PRODUCTS.** An unusual new leather and plastic conditioner is making a hit with military personnel all over the world. The new conditioner called LEATHER-KLEEN actually stops the drying-out, cracking and deterioration of leather and plastic products. By combining the ingredients used in saddle soap, beeswax and neatsfoot oil, one operation does a cleaning operation and restores the natural finish.

*For more facts request No. 52 on reply card*

**ECONOMY ENGINEERING COMPANY.** Offers for your approval a new ECONOMY WALK-IE-WORKLIFTER, a battery-powered, self propelled lifter in the low-price field. This completely new 1000-pound lifter is complete with batteries and charger for $1148. Capable of turning sharp corners in narrow aisles, this safety-designed lifter can be operated into position with simultaneous up and down movements.

*For more facts request No. 53 on reply card*

**TUBE MANIFOLD CORPORATION.** A complete line of new dual function Self-Dehydrating Liquid Receivers specially designed for "close-quarters" installation is announced by this organization. These new Liquid Receivers have the hydro-gel dehydrator mounted inside and concentric with the receiver shell.

*For more facts request No. 54 on reply card*

**MINNEAPOLIS-HONEYWELL REGULATOR COMPANY.** New electronic controls, components and instruments, some of which use transistors instead of vacuum tubes, were recently shown by this organization. Each Division featured newly designed products engineered for maximum efficiency, high production and low cost. The Doelcam Division exhibited five new instruments, which included a new magnetic null indicator, a tubeless data transmission system and a two-stage 400 cps magnetic servo amplifier. The Aeronautical Division introduced a new thermistor level switch, a jet engine temperature indicating system, E-10 electronic autopilot designed for supersonic jet planes and new power-type transistors. The Micro Switch Division showed off their new line of illuminated push-button and snap-action switches in addition to many other new types.

*For more facts request No. 55 on reply card*

**RICHMONT INCORPORATED.** Livermont Model "F" adjustable torque wrenches are widely used in the aircraft, automotive and ordnance industries. Available in sizes 1, 2, 3, & 4, these popular wrenches meet the exacting requirements of Mil. Spec H-4034-A, including amendment 2. These quickly adjustable, multi-purpose torque tools are lightweight, streamlined and as convenient to use as an ordinary wrench.

*For more facts request No. 56 on reply card*

**GENERAL SCIENTIFIC CORPORATION.** A new, extremely precise potentiometer, known as the M10-3000 HT, has just been released to the market. This 10-turn high-resolution potentiometer is recommended for applications where extreme accuracy is required, such as fire control equipment and analog computers. It is provided with serve mountings and will function in ambient temperatures up to 200 degrees centigrade.

*For more facts request No. 57 on reply card*

**FENCPAINTER PRODUCTS.** With the use of these products, a wall, fence or other surface can be painted in less time than any other method. Their Roller Coaster is designed with capillary attraction (paint holding power) and will not drip, splash or lost paint.

*For more facts request No. 58 on reply card*

**GYROMECHANISMS, INCORPORATED.** A rugged new directional gyroscope that performs with high accuracy under extreme operating conditions of vibration, temperature, acceleration and shock has been developed for use in aircraft and missiles. The high accuracy of the new DG under adverse conditions is attributed to an entirely new method of caging which involves fewer moving parts than standard systems.

*For more facts request No. 59 on reply card*

**PRECISION EQUIPMENT COMPANY.** Offers interested organizations and individuals a new catalog #111 which contains information on the newly designed modern sectional bookcase that "grows with your library". Sections can be added as needed, with a unique, simple and secure interlocking feature which guarantees a solid secure unit when stacked to any height. The sections have clear glass panels which slide easily on double tracks, and make this inexpensively priced bookcase manufactured in heavy fire-resistant furniture steel, a must for your library.

*For more facts request No. 60 on reply card*

**WORLD RADIO LABORATORIES,** the world's largest distributor of amateur radio equipment, offers their 1955 catalog without cost to all interested persons. This booklet contains over 15,000 items


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the only monthly horizontal magazine to all of the Defense Services and the only horizontal one with a products section of cost-saving equipment.

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pertaining to the fields of amateur and industrial radio, electronics, high fidelity, etc. Many World Radio parts and sections of manufactured equipment are now in use by MARS and other departments of defense. Inquiry should also be made as to special finance plan, requiring only 10% initial down payment. Catalog should be of interest to personnel of all military departments.

*For more facts request No. 61 on reply card*

**AMERICAN HOMECRAFT COMPANY.** (See Cut). A new all-angle adjustable wing mirror converts your car's interior mirror to full rear and side view vision.

Deadly "blind spots" are eliminated with this clever new invention which gives you a full view of the road, behind and around. "Lookout" fits all mirrors and comes in durable triple-chrome, easily installed and costing but $2.50 postpaid.

*For more facts request No. 62 on reply card*

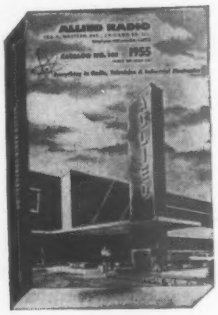
**GAINES-COLLINS (QUIJADA TOOL DIVISION).** A new model of the Chief, fastest, lightest pipe cutter ever built is now available for purchase. Designed to cut pipe 30% faster than former models, the new cutter will not wear dies, despite fast operating speeds. The Chief, which reams and threads simultaneously, features quick opening die heads, removable flat blade ream and a cutter.

*For more facts request No. 63 on reply card*

**POWDER POWER TOOL CORPORATION.** A new high-powered but light-weight powder powered tools for use in all types of construction from residential to heavy construction projects is now available for distribution. Called the Creary Drive-It 330, the new tool is less than six pounds in weight and only 13 inches in length but packs a healthy .25 caliber wallop not hitherto found in tools of this size. Literature on Drive-It 330 and description of pins, applications, pull out loads, vibration tests, tensile and shear strength is available.

*For more facts request No. 64 on reply card*

**ALLIED RADIO CORPORATION.** (See cut) Distributors of radio and electronic parts and equip-




ment, announce the release of their 1955 general catalog. Reflecting the continuing growth of the industry, ALLIED's new catalog contains 308 pages listing over 25,000 items.

*For more facts request No. 65 on reply card*

**BLACKHAWK HOTELS,** Hotel Saint Paul and Hotel Lowry in St. Paul, Minnesota, Hotel Blackhawk, Hotel Mississippi, and Hotel Davenport in Davenport, Iowa, and Hotel Jefferson in Peoria, Illinois, offer Armed Forces Personnel the most modern accommodations at reasonable rates.

*For more facts request No. 66 on reply card*

**BUCKINGHAM TRANSPORTATION, INC.** — This safety-conscious motor carrier has hung up some enviable safety records, collected a lot of awards, and keeps its fleet rolling over the highways of South Dakota, Nebraska, Wyoming, Minnesota, Montana and Colorado, meeting commitments of an ever-increasing business.

*For more facts request No. 67 on reply card*

**LESTER B. KNIGHT & ASSOCIATES, INC.** Experienced management Counsel and specialized services to Armed Forces Management is offered by Knight engineers. If your operation will benefit by highly specialized skills in financial management, paperwork management, management controls, or plant engineering, a Knight representative will call upon your inquiry.

*For more facts request No. 68 on reply card*

**WILLIAMSON MOTOR COMPANY.** A leading Ford automobile dealer in Northern Illinois for years, Williamson presents their completely new 1955 line with the latest design and safety driving features.

*For more facts request No. 69 on reply card*

**THE RICHKRAFT CO.**—Many contractors, engineers and architects have felt for some time that an improvement was desirable in membranes for use under slab and over crawl spaces. The Richkraft Company of Chicago, Illinois, has recently made definite advancement in the design of such a paper known as Richkraft 65. This paper is definitely one of the major improvements in membrane waterproofing in the last ten years. The Richkraft Company has long been connected with the construction industry and is well-known as a distributor of a wide range of reinforced waterproofed papers, black papers and reflective insulation.

*For more facts request No. 70 on reply card*

**CLARK EQUIPMENT COMPANY.** The Clark Mobilvan System of freight movement has revolutionized cargo transfer. Their sturdy mobile warehouses permit loading of 40,000 pounds of material in seconds. Expensive rolling equipment and valuable warehouse space become more productive.

*For more facts request No. 90 on reply card*

**GREYHOUND LINES INCORPORATED** offer inexpensive, dependable transportation to any point in the United States. More and more military departments are finding Greyhound the answer to personnel movements.

*For more facts request No. 71 on reply card*

**WHITTEN TRANSFER.** This common carrier of explosives serving W.Va., Ohio, Va., Kentucky, Pa., Maryland, North Carolina, Illinois, and New Jersey with interlines of other common carriers offers shipping service for explosives or blasting supplies. Central offices are in Huntington, W.Va.

*For more facts request No. 72 on reply card*

**ROYAL MOTORS.** A leading

eastern automobile dealer gives you one of the nation's leading 1955 automobiles at large pocketbook savings. Now is the time to invest in low-cost luxury.

*For more facts request No. 73 on reply card*

**Detar Distributing Co., Inc.** With general offices in Oklahoma City, Oklahoma, this contract carrier of explosives including Class A and B has available inter-state service between all points and places in the states of Kansas, New Mexico, Louisiana, and Mississippi and intra-state service covering all of Oklahoma.

*For more facts request No. 74 on reply card*

## Lockheed Completes 100 Million Man Hours on Constellation Series

Lockheed Aircraft Corporation recently celebrated its 100,000,000th man-hour of work on Constellation series airplanes—a milestone that would take one man 500 centuries to reach.

This time investment has brought the big four-engine airplane to more than twice its original concept of payload and power, Burt C. Monesmith, vice president and general manager of Lockheed's California Division, declared.

And it has resulted in a total of more than a billion dollars worth of production orders, he added.

"The Constellation's career since 1943 reflects a basic American aircraft manufacturing philosophy that airplanes should evolve in a continuous flow of improvements after development of a basically sound airframe," Monesmith said.

"A good airplane design should be no one-shot effort.

"Taking advantage of production learning curves, power plant advances and vast flight experience, United States manufacturers have been able to turn something old into something new—and make it more efficient and more profitable to operate," he added. "This policy has captured world transport markets."

Monesmith pointed out that 16,000,000 engineering man hours have gone into the Constellation project, plus 71,460,000 hours for production and 1,200,000 hours for flight-test work.

Now in production for world airlines, the U.S. Air Force and U.S. Navy, the airplane exists in specialized versions for cargo, hospital and military personnel movement, radar sentry operations, civil air freight, VIP-ships and commercial luxury airliners.

One of the huge airliner's proudest roles is that of the Columbine III, President Eisenhower's personal transport.

The total built or on order approximates 650, Monesmith said.

The newest Super Constellations include 22,800-h.p. turbo-prop-powered models capable of 440-m.p.h. speeds and 18-ton payloads. These world's fastest propeller-driven transports compare with the original concept of an 8800-h.p. plane traveling 300 m.p.h. with 8½-ton payloads.

## Need Noted for Service Course in Watch Repair

Indications of a need in the Armed Forces for a greater number of fully qualified watch repairmen has prompted Elgin National Watch Company to offer its instruction facilities for an abbreviated training program.

W. M. Brandes, Elgin vice president, said his firm is investigating the possibility of instituting at Elgin Watchmakers College a three-month refresher course, for service personnel, on advanced watchmaking techniques.

Many American timepiece manufacturers are concerned because the U.S. has no adequate, continuous program to train service personnel in watchmaking.

"We've stockpiled parts and material," Brandes said, "but in certain fields we haven't done much about stockpiling manpower. The parts don't mean much unless we have someone who can assemble them."

Brandes said that so far his firm has been unable to determine exactly how great the need is for more fully qualified personnel. But indications are that some major installations have had to spend more than the normal amount of money for repair of aircraft clocks, tank timepieces and personal watches, due to a lack of trained manpower.

Several air bases have been forced to depend on civilian labor when base instrument technicians were unable to repair aircraft clocks. Although this may seem to be a minor matter, its importance is easily recognized when you understand that an error of a few seconds in a watch or chronograph can cause an error of miles in navigation.

Brandes said the shortage of adequately trained personnel has given rise to the practice of "repair by replacement." In simple terms, when an instrument technician finds he doesn't have the knowledge to repair a worn part in a unit, he merely throws it away and replaces it with another unit.

The practice not only costs the government more money, but knocks a hole in the stockpile of available parts. The amount of money may not seem large until it is realized that some units in a wrist watch may cost as much as five to six dollars—and there are more than 150 individual parts in extremely accurate watches.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ARMED FORCES
MANAGEMENT

# Index to Advertisers

**Blackhawk Hotels**.....**Page 27**

Noted for their excellent service and matchless cuisine, the Mississippi, Davenport and Blackhawk hotels in Davenport, Iowa, the Saint Paul and Lowry in St. Paul, Minnesota, and Hotel Jefferson in Peoria, Illinois, are popular with services personnel traveling thru the Midwest.

**Buckingham Transportation, Inc.**.....**Third Cover**

This safety-conscious motor carrier has hung up some enviable safety records, collected a lot of awards, and keeps its fleet rolling over the highways of South Dakota, Nebraska, Wyoming, Minnesota, Montana and Colorado meeting commitments of an ever-increasing business.

**Clark Equipment Company**.....**Second Cover**

Clark has revolutionized the freight hauling business with their fast, inexpensive Mobilvan System whereby vans become mobile warehouses freeing expensive rolling equipment and warehouse space become more productive.

**Detar Distributing Co., Inc.**.....**Page 33**

Contract carrier of explosives, including classes A and B, Detar Distributing has inter-state operations in 5 states. General offices in Oklahoma City, Okla.

**Greyhound**.....**Page 1**

Bus transportation is authorized by military agreement and the leader in bus transportation is Greyhound. One move straight through by chartered Greyhound fleet does the job. Bus movement of troops is easier with door-to-door service, choice of routes by you, the traveler, and can be used for groups of any size.

**Lester B. Knight and Associates, Inc.**.....**Page 29**

Experienced management counsel and specialized services to the Armed Forces Management groups are available from this firm with an outstanding record of achievement in its field.

**Railroads of the United States**.....**Page 4**

Armed Forces Personnel and impedementa are moved safely and economically each day by the Railroads of the United States. Approved travel facilities, together with rate reductions for miiltary travel.

**Richcraft Company**.....**Page 21**

Richcraft 65, pre-treated with special fungicide is easy to lay and inspect. A cost-saving membrane for under concrete slab and over crawl space where slab is not poured on the ground. Comes in 3, 4, 5, 6, 7 and 8 ft. widths.

**Royal Motors**.....**Page 39**

Offers automobile discounts to returning servicemen. This big East coast dealer also offers accessories at a savings of twenty-five per cent.

**C. I. Whitten Transfer Co.**.....**Page 32**

Headquarters at Huntington, W.Va., this firm is a common carrier of explosives, a direct coverage of 9 states and inter-lines arrangements with other carriers, covering the U.S.

**Williamson Motor Company**.....**Page 31**

One of the better Ford dealers in Northern Illinois offers discount on the new '55 cars to returning servicemen.

**World Radio Laboratories**.....**Fourth Cover**

Save money on radio equipment. World Radio lists their free 1955 catalog with savings on all types of radio materials of up to 50 per cent.

FIRST *in Highway Safety!*

# BUCKINGHAM Transportation, Inc.

THE MODERN TRUCK LINERS

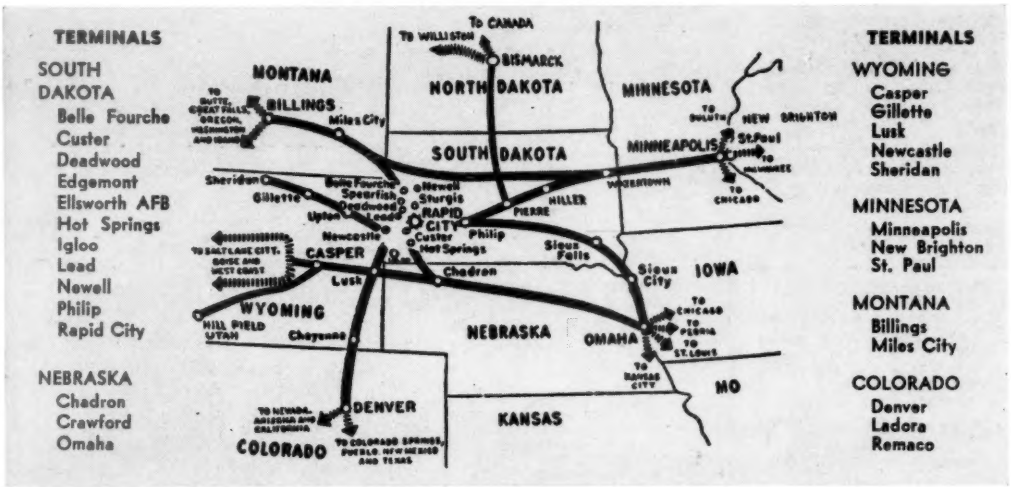
## *Cost-Conscious Transportation Officers*

Will Recognize the Efficiency Value of Buckingham's

### *TELETYPE SERVICE !*

Efficient and DEPENDABLE handling of freight shipments may prove tremendously important factors in CUTTING OVER-ALL COSTS at any installation. Delay of receipt of building materials, for instance, may cause an annoyed post engineer a few gray hairs and a sizable dent in his already skimpy budget, through idleness of workers. One of the many reasons that BUCKINGHAM enjoys an enviable reputation for fast and efficient handling of shipments is TELETYPE SERVICE. Shippers and consignees are constantly using this service to coordinate shipping movements. Re-routing of shipments and elimination of excessive handling of freight can be accomplished, through this fast communication medium, by continuous knowledge of location. This enables terminal personnel to arrange freight handling at docks in advance. Telephone toll calls are costly and letter writing may prove expensively slow—The answer? USE BUCKINGHAM'S TELETYPE SERVICE.

## Shipments Never Get Sidetracked With **BUCKINGHAM**




Winner of the 1953 ATA National Trailmobile Safety Award, in the 10-20 million miles division, and the recipient of other top safety awards in South Dakota, Montana, Minnesota and Nebraska, BUCKINGHAM TRANSPORTATION, INC., is recognized as one of the nation's most safety-conscious motor carriers and a leading exponent of safety education. Buckingham employees are proud of one of their number, Gomer W. Bailey, winner of the trucking industry's coveted "Driver of the Year" award, and equally proud of their part in keeping BUCKINGHAM at the top, in safety.

With this type of personnel, your shipments are assured *SAFE*, FAST, ON-TIME DELIVERY.

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**Transportation, Inc.**
General Offices
Rapid City South Dakota

1953 NATIONAL SAFETY CHAMPIONS ATA

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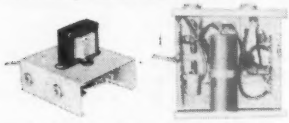

Top-Side and Bottom View, Wired

Build this low-cost, code oscillator! Helps you learn code faster; prepare for your novice license. All parts and simplified wiring instructions included. Then plug into any 110 volt AC source, and with asccessories below, you're ready to go.

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J-38 Key (XA883) $ .99
Headphones (50A005) 2.01
Phone Plugs (1A025) .33
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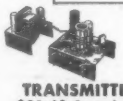
**RECEIVER**
**$14.70 Complete**

Build your own transmitter and receiver and "go on the air" with this complete kit and simple instructions. Complete kit only $43.22. Designed for single wire antenna. Power supply included with transmitter. Units may be purchased separately. Write for full details.



**TRANSMITTER**
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**65 watts on CW, 50 watts on fone**

Transmits on 10-160M amateur bands. Metering provided. Pi Network antenna tuner. Self-contained power supply. May be used mobile; provisions for dynamotor attachment. 100% modulation of Final. Thoroughly TVI-screened cabinet. An ideal rig for the novice. Cabinet 8"x16"x8".

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**Cash Price: $99.95**

**Our Financing Requires Only 10% Down**

### LIKE TO TINKER!

Then order this Globe Scout in kit form, build it yourself, and save money. All parts, tubes, etc. and instructions included. Only $89.95 cash. Or $9.00 down and $7.15 per mo.

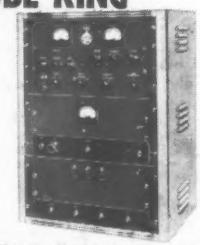
### WRL's 500 WATT Completely Bandswitching

## GLOBE KING

**You Pay Just $36.78 per mo.**

**$67.50 Down**

**Cash Price: $675.00**



In our continued attempt to give you more watts per dollar, we proudly present our new, completely bandswitching Globe King for 500 watts on phone and CW. This transmitter covers amateur bands 160-10M, has provisions for VFO and SSB input, and is thoroughly screened and by-passed for TVI. Pi Network matches any antenna from 52-600 ohms. Protective bias, new dual high voltage power supply, and push-to-talk, just a few of the many fine features. Grey hammertone cabinet: 31"x21¾"x15".

We also manufacture the 400 watt Globe King, a versatile, advanced-design transmitter offering efficient performance on all bands, 10-160M. 100% modulated. Provisions for VFO. Screened for TVI. Complete with one set of coils for any one band. Only $515.00 cash. Or pay 10% down and $28.13 per month.

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Approx. 3'x4', showing amateur zones and monitering stations. Ideal for the wall of your ham shack.

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My check is enclosed for:

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- ☐ Amateur Pub. (50c)
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- ☐ Code Pub. (25c)
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